CHAPTER 3: ELEMENTS OF THE BUILT ENVIRONMENT – EXISTING CONDITIONS, ENVIRONMENTAL IMPACTS, & MITIGATING MEASURES

3.1. ENVIRONMENTAL HEALTH

3.1.1 Noise

Noise is defined as unwanted sound. Intensity, duration and frequency define the character of sound. Three aspects of sound are important in determining the subjective response to sound; these are sound level, frequency content and time varying characteristics. In general, the more densely an area is populated and the higher the intensity of land uses there are, the noisier it will be. Noise is inseparable from modern society; however, excessive noise can interfere with thought, communication and sleep, cause annoyance, health problems, loss of hearing and have secondary effects such as economic loss, property devaluation and disturbing wildlife.
The level of sound is a measure of its intensity, expressed in decibels (db). The frequency (spectrum) of a sound refers to its pitch and is expressed in Hertz or cycles per second. Most of the sounds we hear in the environment are a combination of many frequencies at many levels. Common terms and measures for noise and sound are:

- dBA: Sound is measured on a logarithmic decibel (Db) scale. A more common measure of sound, dBA is based on this scale but is weighted to account for frequency and pitch, which affect human perceptions of sound. It is important to note that 3 DBA is considered the minimum perceptible change in noise level and that a 10 DBA sound increase is perceived as a doubling of loudness. Therefore, changes in noise levels of 3 DBA may be considered a minor impact.

Table 3.1: Typical Noise Levels

Sound Source	dBA
Threshold of Hearing	0
Soft Whisper	30
Remote Park Area	35
Window Air Conditioner	55
Quiet Conversation at 3 Feet	60
Vacuum Cleaner at 10 Feet	70
Major Highway at 100 feet	75
Busy Urban Street	80

- Average Day Night Level (LDN): LDN averages the total volume (in dBA) of noise collected over a 24-hour period. Nighttime noise (10:00 pm to 7:00 am) is counted at 10 decibels higher than actually measured to compensate for the fact that night sound is considered more intrusive than daytime noise.
- . Leq: Measures the sound level occurring over a designated time period.
- Lmax: Represents the maximum sound level of a noise source.
- Receiving Property: Building or other property where sound is received.
- . Sensitive Receptor: Places or activities that are particularly sensitive to noise intrusions such as , hospitals, schools and libraries.
- . EDNA: Means the environmental designation for noise abatement, being an area or zone (environment) within which maximum permissible noise levels are established.

Many factors such as humidity, proximity to water, temperature, elevation and background noise can affect noise levels at a receiving site. Other factors that can affect noise levels include the design and type of construction of buildings, vegetation and sound barriers.

Noise Standards, Guidelines and Regulations

The Federal Noise Control Act (1972) assigns primary responsibility for regulating nontransportation noise to state and local governments. State and local governments also regulate motor vehicles not involved in interstate commerce. Federal noise authority preempts local and state noise regulations for three major noise sources: aircraft, railroads and motor vehicles engaged in interstate commerce.
The Federal Transit Administration specifies that a peak hour increase of 3 dBA (Leq) or less is considered insignificant. A peak hour increase of 4 to 10 dBA (Leq) is considered possibly significant, and may require mitigation. An increase of more than 10 dBA is considered a serious impact.
Federal Highway Administration indicates noise impacts from highways occur when noise levels substantially exceed existing levels or exceed the following criteria for various land use categories:

- Unique tracts of land in which serenity are of extraordinary significance = 57 dBA (Leq).
- Homes, libraries, schools, churches, hospitals, outdoor recreation areas = 67 dBA (Leq)
- Commercial and Industrial uses = 72 dBA (Leq)

The Washington State Department of Ecology has established the following maximum permissible environmental noise levels (WAC 173-60-040):

Table 3.2: Maximum Permissible Noise Levels

EDNA of Noise Source	EDNA of Receiving Property		
	Class A	Class B	Class C
Class A (Residential, Hospitals Resorts, Parks)	55 dBA	57 dBA	60 dBA
Class B (Commercial Uses)	57 dBA	60 dBA	65 dBA
Class C (Industrial, Agricultural)	60 dBA	65 dBA	70 dBA

Between the hours of 10:00 pm and 7:00 am the above noise limitations in receiving properties are reduced by 10 dBA in Class A EDNAs. Noise limitations can be exceeded for specified brief periods of time.
In addition, Spokane County and the City of Liberty Lake have adopted regulations regarding excessive noise from a wide variety of sources.

3.1.1.1. Existing Conditions

Sources of noise in the City and the proposed UGA include:

Traffic

Vehicular traffic noise is a combination of noise created by engines, tires, exhaust and air movement. There are a number of factors that influence noise generated by traffic, including but not limited to vehicle type, traffic volumes, speed, inclines and pavement surface. Other conditions such as distance, vegetation, terrain, and natural and manmade obstacles also affect vehicular noise.
Areas that are most affected by traffic noise are along the I-90 corridor and along high volume roadways. Some areas may be more affected by noise than others due to terrain, vegetative buffers, and proximity to roads. As growth occurs within the planning area, traffic noise will increase and will impact a larger area and population, especially

General Urban Noise

The City of Liberty Lake, the UGA, are affected by typical urban noise generated by traffic, construction, emergency services, machines, commercial and household activities. In general, urban noise is correspondingly greater the more densely an area is populated and the higher the intensity of land uses there are.

3.1.1.2. Noise - Environmental Impacts

As the population of the City of Liberty Lake and Spokane County grows, noise impacts from vehicles, commercial, industrial, construction and other sources will increase. The alternatives that allow the expansion of the UGA will expand urban noise levels to previously rural areas. The alternatives that allow higher densities will tend to concentrate noise levels in areas that are already impacted. In general, as population increases, it is likely that short-term noise impacts from construction activities will occur under all the alternatives to accommodate City of Liberty Lake's projected 20-year growth.
With all alternatives, Residential areas adjacent to arterials will have additional noise impacts, as will rural areas within the UGA. The No Action alternative will allow noise levels to increase gradually as residential, industrial and commercial areas develop to allowed zoning densities and uses. The higher densities under the Adjusted UGA alternatives will allow noise levels to increase within City of Liberty Lake and the UGA. Construction activities will have a larger short-term impact due to the increased density. Construction-related noise impacts should cease at the termination of construction activities. Since the Adjusted UGA alternatives will allow the expansion of the UGA, increased noise levels will occur in areas that were previously rural development and will possibly affect wildlife.

3.1.1.3. Noise - Mitigating Measures

A variety of noise mitigation measures can be utilized to minimize noise impacts for all alternatives: No Action and Adjusted UGAs. These include the following mitigation measures:

- Traffic management measures such as traffic control devices and signing for time restrictions, prohibitions of certain vehicle types and exhaust brakes and modified speed limits.
- Vehicular noise can also be attenuated with the construction of sound walls, change of vertical and horizontal alignment, sound absorptive pavement and acquisition of property.

- Require noise attenuating construction materials for buildings near noise producing areas
- Require buffers or sound barriers for noise sensitive land uses near noise producing areas
- Limit construction activities to daytime hours and require contractors to utilize standard noise mitigation measures to reduce any impacts on the surrounding area from the construction.
- Encourage the use of construction techniques and equipment that minimize noise.
- Develop a noise awareness program and enforce existing rules and regulations.
- Establish a Geographic Information System (GIS) program to identify areas impacted by noise sources and complaints regarding noise.
- Encourage use of alternative transportation and public transportation to help reduce background vehicular noise.
- Encourage the use of vehicle types that minimize noise such as vehicles with electric motors and hybrid vehicles.
- Utilize land use designations to allow uses based on existing development patterns and to permit only those uses that are compatible near noise generating land uses.

3.1.2 Risk of Explosion

3.1.2.1 Existing Conditions

The storage, use and transport of hazardous materials pose a risk of explosion. The greatest threat of explosion occurs with uses that utilize hazardous materials in industrial and commercial areas and with the transport of hazardous materials along truck routes, rail corridors and pipelines.

Vehicular

Trucks carrying hazardous materials have increased potential for explosions if they are involved in a traffic accident. Areas that have the most potential for traffic accidents and therefore have the most potential for possible explosions are along the I-90 corridor, along high volume roadways, and at intersections. As density increases within the City and the UGA, explosions could impact a larger population.

Industrial and Commercial Uses

Industrial plants that utilize hazardous materials in the planning area have explosion potential. Establishments that have the greatest threat of explosions typically involve the use of flammable material in confined spaces. These may include businesses such as woodworking shops, paint stores and businesses that use and dispense petroleum products. Older businesses are less likely to have up to date fire safety precautions in place.

Pipelines

Transmission of hazardous liquids and gases by pipeline is an essential transportation mode for moving and distributing these products. While pipelines offer an efficient and

convenient method of transport, there is potential for ruptures and uncontrolled leaks of products, which may be highly flammable, explosive, or toxic.
There are natural gas transmission lines within the northern and western portions of City of Liberty Lake and the existing UGA. Many of the areas were not heavily populated at the time that the transmission lines were installed. Over time, increased density has grown in areas near the pipelines. It is expected that with increased demand for natural gas and petroleum, there will be a need to expand the capacity of the pipelines in the future.
Except for pipelines, regulations to reduce the risk of explosions and the response to explosions related to hazardous materials are the same as those outlined in section 3.1.3, Hazardous Materials. Pipelines are regulated under a number of federal, state and local regulations. The Federal Department of Transportation through the Office of Pipeline Safety is the regulator of interstate natural gas and hazardous liquid pipelines and intrastate natural gas and hazardous liquid pipelines that are over 15 miles in length and over a certain pipe diameter. The Federal Energy Regulatory Committee has authority to site interstate natural gas lines. State and local safety provisions regulating interstate pipelines are expressly preempted by federal jurisdiction, with the exception that the state is allowed to increase safety standards and regulate the location of intrastate pipelines that do not meet the above threshold requirements. Local government also has authority to impose conditions through NEPA, SEPA or if the pipeline requires a shoreline permit. Recently, the Washington State Legislature has granted the State Utilities and Transportation Commission authority to conduct inspections for the Federal Office of Pipeline Safety.

3.1.2.2. Risk of Explosion - Impacts

The impacts detailed under Section 3.1.5.2. Hazardous Materials-Impacts are applicable to this section. The higher densities allowed under the Adjusted UGA alternatives will increase densities within the UGA, which may increase the number of people that could be exposed to explosions at any one time, particularly in areas near highways, arterials and pipelines. As the population grows and the demand for hazardous materials grows, there will continue to be the threat of an explosion and risk of exposure, damage and contamination under all alternatives.

3.1.2.3. Risk of Explosion - Mitigating Measures

Many of the mitigating measures identified in Section 3.1.7 Hazardous Materials-Mitigating Measures, are applicable to this section as well as additional mitigating measures that apply to pipelines:

- Utilize land use designations and allow uses based on existing development patterns that provide a separation between industrial and residential land uses.
- When industrial land uses are in close proximity to residential land uses, provide, enhance and maintain adequate buffers to minimize risk of exposure.
- Support the planning efforts of the Local Emergency Planning Committee including but not limited to coordination between jurisdictions and response teams, training, and tracking of hazardous materials.
- Traffic management measures such as traffic control devices, specified truck routes and signing for time restrictions, and modified speed limits.
- Continue education regarding the safe use, storage, disposal and recycling of hazardous materials and waste.

- Develop information/education and notification programs to alert the public of pipeline location and safety considerations when making land purchase or development decisions near transmission pipelines.
- Require pipeline operators to provide accurate 'as-built' pipeline maps as a condition of approval for any development permit. In addition to scaled plan maps, which shall be accurate to the parcel level, pipeline information (pipe size, allowable pressure, fuel type, etc) shall also be provided. Provide update copies of all major pipeline routes to Spokane County Emergency Management Department.
- Seek intervenor status on all pipeline proposals which may not be within the County's regulatory authority, so as to preserve the County's legal right to retain a voice in the proposal. The County would review a pipeline proponent's application materials and file comments with the reviewing bodies according to the appropriate procedure and within the timelines provided. Staff should engage in continual and ongoing communication with the regulatory authorities regarding the project as the need or occasion arises.
- Require transmission pipeline proponents to notify all fire districts, water and sewer districts, and jurisdictions with urban growth areas where the siting of new pipelines crosses those service areas.
- Monitor transmission pipeline construction to ensure pipelines are installed in accordance with all applicable critical areas regulations.
- . Encourage the Office of Pipeline Safety to enact stronger safety measures for transmission pipelines, and to encourage pipeline applicants to voluntarily enact stronger safety measures than required by federal law.
- Utilize GIS based siting criteria for evaluating transmission pipelines which are consistent with comprehensive plan policies for transmission pipelines
- Encourage transmission pipelines to follow established corridors where possible.
- Require applicant justification for proposed deviations.
- . Discourage transmission pipelines within urban growth areas.
- No transmission pipeline facilities should be constructed or located in critical areas without fully mitigating the project impact.
- . Restrict the location of transmission pipelines in high-risk landslide areas where evidence of instability could be ascertained by recent events, or verifiable geological conditions.
- For natural gas transmission pipelines, encourage siting of critical facilities and high occupancy facilities pursuant to the regulations of WAC 480-93-020, and 480-93-030 (not closer than 500' from a 500 psi pressure or greater pipeline, not closer than 100' from a pipeline with a pressure between 250 and 499 psi) and as hereafter amended.

3.1.3. Hazardous Materials

3.1.3.1. Existing Conditions

There are four characteristics that can cause a material to be hazardous and pose a threat to health or to the environment: ignitability, corrosivity, reactivity, and toxicity. Hazardous materials are found in residential, commercial and industrial uses.

Hazardous materials and wastes include many common substances, such as lead acid batteries, drain cleaner, paint thinner, petroleum products, solvents, ink sludge, pesticides, herbicides, antifreeze and chlorine. These materials do not immediately pose a threat if they are treated properly.

Hazardous materials are widely utilized and available. Many of these substances such as paint, solvents, corrosive cleaners and pesticides are available to the general public through hardware, garden, auto and grocery stores, and are stored in homes. A survey for King County found that people who reside in multi-family developments tend to store less hazardous materials than people who reside in single-family developments. Many commercial and industrial uses such as medical facilities, auto facilities, plating facilities, dry cleaners, manufacturing facilities, and sewer and water treatment plants utilize hazardous materials and produce hazardous wastes.

Under the Federal Emergency Planning and Community Right-to-Know Act, Section 312, reporting requirements, all commercial users of hazardous materials are required to have a list of the substances that are used. Larger users of hazardous materials are required to register the chemicals that are utilized. The reportable threshold for all hazardous substances are 10,000 pounds stored at any one time and 500 pounds or less for extremely hazardous substances. The reporting thresholds for retail gas stations are 75,000 gallons for gasoline and 100,000 gallons for diesel.

Hazardous materials are also transported by rail, truck and pipeline. The transport of hazardous materials can pose an additional risk of exposure, contamination and explosion due to the possibility of collisions or pipeline rupture. Hazardous materials and the risk of explosion impacts are addressed in the previous section.

Improper storage and disposal of hazardous wastes may lead to contamination of soil or groundwater.

Under the Washington State Model Toxins Control Act, the responsibility for identifying and scheduling cleanup of contaminated sites lies with the Department of Ecology. The Department of Ecology maintains a database of known and potential hazardous waste sites. The database describes the sites, the affected environment and the status of the contaminants. Cleanup of contaminated sites can be a long and costly process due to legal issues, analysis required and standards.

Regulation of hazardous materials has many layers and is complex. Federal regulations (SARA Title III) address reporting, planning and the public's right to know about hazardous materials. Spokane County has developed a Draft Mitigation Plan that addresses the potential for and response to natural and human caused hazards.

The Spokane Regional Solid Waste System has 3 recycling center/ transfer station that accepts oil and antifreeze and limited types of hazardous wastes for recycling and disposal and provides homeowner education regarding proper disposal and handling of household hazardous wastes

The Department of Ecology has established a Nuclear Waste Program to dispose of low-level mixed and commercial nuclear waste.

3.1.3.2. Hazardous Materials – Impacts

The higher densities under the No Action alternative will increase densities within the City and existing UGA, which may increase the number of people that could be exposed to hazardous materials at any one time and may also increase the possibility of discovering a previously unknown contaminated site. Development pressure may provide an economic incentive to clean up such sites. Under this alternative, it is likely that there may be less storage of hazardous materials due to increased multi-family housing development.

Alternatives 2-7 will allow the expansion of the UGA into formerly rural and, which may increase the possibility of discovering unknown contaminated sites and may increase the potential for contamination in formerly rural areas.
The potential for the release of hazardous materials and waste is primarily in commercial and industrial areas. As the population grows, there will continue to be the risk of exposure or contamination under all alternatives. Under land use alternatives that require expansion of the UGA, the ability to provide rapid emergency response for a hazardous materials event will be reduced unless additional response capability is provided through additional staffing and emergency operations office space.

3.1.3.3. Hazardous Materials – Mitigating Measures

A variety of mitigating measures can be utilized to minimize the risk of contamination or exposure to hazardous materials and waste. These include the following:

- Utilize land use designations and allow uses based on existing development patterns that provide a separation between industrial and residential land uses.
- When industrial land uses are in close proximity to residential land uses, provide, enhance and maintain adequate buffers to minimize risk of exposure.
- Support the planning efforts of the County/ City Emergency Management team including but not limited to coordination between jurisdictions and response teams, training and tracking of hazardous materials.
- Traffic management measures such as traffic control devices and signing for time restrictions, and modified speed limits
- Train appropriate public employees to recognize hazardous materials and possible contaminated sites.
- Continue education regarding the safe use, storage, disposal, and recycling of hazardous materials and wastes.
- Develop a system to track contaminated sites and require assessment and cleanup for development proposals that may involve a contaminated site.
- Require a site assessment for contamination prior to public purchase or transfer of land.

3.2 SHORELINE USE

3.2.1. Shoreline Use – Existing Conditions

The NW portion of the planning area contains the Spokane River and its associated shorelines. The current uses of the shoreline area in this planning area are recreational and wildlife habitat.

3.2.1.1 Relationship to Existing Shoreline Use Plans

The current shoreline designations are Pastoral and Conservancy. The proposed designations in the Draft Revised Shoreline Master Program are Rural Conservancy and have 3 identified reaches of High Quality Areas.

3.2.1.2. Light and Glare

Light and glare are currently produced in the planning area by vehicular traffic from Harvard Rd., Euclid Rd., and Hodges Rd.; and from nearby residential neighborhoods.

3.2.1.3. Aesthetics

Commercial development is prohibited in the Pastoral designation, and only allowed in the Conservancy Designation if the use is water dependant and does not disrupt the quality of scenery and water quality. According to the existing Spokane County Shorelines Program, residential development must be set back no less than 50 feet back from the ordinary high water mark. These designations help to protect the aesthetics of the Spokane River shoreline.

3.2.1.4. Recreation

Recreational uses along the shoreline include, but are not limited to, fishing, rafting, swimming, and bird watching. The Centennial Trail bike path is located adjacent to the south shoreline. There is a parking area located on the west side of Harvard Rd. with restrooms and a connection to the bike trail and river access.

3.2.2. Shoreline Use – Impacts

Alternative 1 – No Action

The No Action alternative is expected to push growth and the impacts of growth not previously anticipated during the 2001 projections and analysis to the existing City limits. This alternative would focus development and impacts in the existing City and would be expected to result in the least amount of shoreline impacted by development.

Alternative 2 (All Alternatives Included) – Adjusted UGA Boundary

Under this alternative new growth would be directed into the existing City and would require an expansion of the UGA. This alternative would be expected to result in areas of land that are presently designated as Urban Reserve being developed for urban land uses. This would expand the development pattern outside the existing UGA and would be expected to create impacts to the shoreline in the NW planning area.

Alternative 3 – NW Proposal

Under this alternative, new growth would be directed into the existing City and Urban Growth Area, but would require a smaller expansion of the UGA. This alternative would be expected to result in a moderate area of land that is presently designated as urban reserve being developed for urban land uses. This would expand the development pattern outside the existing UGA and would be expected to create impacts to the shoreline.

Alternatives 4, 5, 6, and 7 –SW Proposals

Under these alternatives, new growth would be directed into the existing City and Urban Growth Area, and would require an expansion of the UGA that does not include any Spokane River shorelines. This would expand the development pattern outside the existing UGA but would not be expected to create significant impacts to the Spokane River shoreline.

3.2.3. Shoreline Use – Mitigation Measures

Specific mitigation measures for potential land use impacts resulting from future construction NW planning area would be determined during a subsequent site-specific environmental review. Land use patterns in the shoreline vicinity would continue to be consistent with the Spokane County Comprehensive Plan, Spokane County zoning code, and the current and proposed Shorelines Program, when adopted.

3.3. PUBLIC SERVICES AND FACILITIES

3.3.1. Public Services and Utilities – Existing Conditions

3.3.1.1. Fire Protection and EMS

The City of Liberty Lake is currently provided fire protection and EMS service through Spokane County Fire District #1 (SCFD #1). All fire protection districts in Washington State are assigned a numerical fire protection rating by the Washington Surveying and Ratings Bureau. Insurance companies fund the Bureau to perform on-site inspections of fire districts to determine the rating. The Bureau analyzes five main areas: average response time, water supply, and communication network, schedule of fire inspections and fire station evaluations which focus on age of vehicles, amount of personnel training and staffing of facilities.

Insurance companies use the fire protection rating to help determine insurance rates on all fire insurance policies. The rating is on a scale of 1 to 10, with 1 representing the best score. Quality of fire service can have a significant impact on fire rates.

The existing rating for SCFD # 1 is 4. SCFD # 1 has a paid staff of 154, 0-volunteers, 10-stations and 11- Class A pumper trucks. One station is located in the northern area of the City on Harvard.

A portion of the area reviewed in the alternatives is currently served through South Valley Fire District # 8 (SVFD #8) and has an existing rating of 5. SVFD # 8 has 47 - paid staff, 74 – volunteers, 4 – stations, 6 – Class A pumper trucks.

Each district provides emergency medical service (EMS), as well as fire suppression. They also provide fire investigation, inspections and public education. All fire and emergency medical services are dispatched from a central location through the 911 exchanges.

The number of calls for service has increased from 7595 in 2000 to 9202 in 2005 for SCFD #1. Representing an overall increase of 1607 calls or 21% increase in calls for service. SCFD # 8 has also experience an increase in calls for service from 782 in 2000 to 1011 in 2005, for a change of 229 or 29% increase.

All fire districts with in Spokane County interlocal agreements with each other and the DNR to receive additional help on large or multiple incidents. They also jointly develop County fire codes, disaster planning and training programs.

3.3.1.2. Fire Protection and EMS – Impacts

SCFD #1 and # 8 currently determine personnel and resource needs based on existing zoning, residential densities, and population growth projections. Population growth and developments are expected to place additional demands on fire-related service delivery and EMS calls under all alternatives.

Alternative 1 – No Action

Under this alternative, growth would occur within existing City at existing zoning and increased residential densities.

- Create Increased traffic congestion and increased response time for emergency vehicles;
- Require increased fire flow in some areas as they reach potential build-out;
- Require recruitment and hiring of additional firefighters and paramedics; and
- Require additional emergency response equipment to maintain existing service levels.

Alternatives 2-7 – Adjusted UGA

Under these alternatives, land inside the City and retain its existing zoning and possibly higher residential densities and the UGA boundary would be expanded as much as necessary to accommodate the projected population growth at urban residential densities. Wherever the UGA boundary is expanded, land will be rezoned from rural densities to urban densities and will become eligible for annexation to the City. Similar to Alternative 1, expansion of the UGA boundary at urban residential densities would be expected to:

- Create Increased traffic congestion and increased response time for emergency vehicles;
- Require increased fire flow in some areas as they reach potential build-out;
- Require recruitment and hiring of additional firefighters and paramedics; and
- Require additional emergency response equipment to maintain existing service levels.

3.3.1.3. Fire Protection and EMS – Mitigating Measures

Regardless of the growth alternative adopted, new funding sources will have to be secured in order to sustain adopted levels of service. The best option for mitigation is to encourage continued coordination between the Spokane County Fire Districts. Additionally:

- Ensure that land with the City and UGA is developed at urban densities to gain full advantage of the full range of urban services available.
- Consider the option of requiring new development in the City and UGA to pay impact fees for fire protection facilities as allowed by RCW 82.02.090 (7).
- Develop a concurrency management system to assure that adequate fire protection and emergency medical facilities, equipment, and personnel are in place at the time that new development is approved or within a reasonable amount of time.
- Encourage educational efforts by Fire Districts to promote opportunities for volunteer firefighter recruitment.

3.3.1.4. Law Enforcement - Existing Conditions

The City of Liberty Lake Police Department, the Spokane County Sheriff's Office, and the Washington State Patrol (WSP) provide local law enforcement service in City of Liberty Lake and surrounding areas. All are part of a Mutual Aid Agreement, which allows law enforcement agencies to assist each other with equipment and personnel

when needed. The WSP is primarily responsible for traffic enforcement on State administered highways such as Interstate 90 (SR 90).

3.3.1.4.1. The City of Liberty Lake Police Department

The City of Liberty Lake Police Department provides law enforcement service within the incorporated city limits. Police Headquarters are located at 22710 E Country Vista in downtown Liberty Lake, within the existing Liberty Lake City Hall. In addition to basic law enforcement activities, such as patrol, traffic, and criminal investigations, the Police Department provides a full range of crime prevention, planning, and educational programs.
The Police Department has worked closely with the Central Valley School District to provide for increased safety children's to administer the Drug Abuse Resistance Education (DARE) program at Liberty Lake Elementary.

Over the past 5 years (2001-2006), the population within the city limits served by the Police Department has grown from approximately 3,265 to over 6,000. This represents an increase of 84% over 5 years, or an average increase of about 13% per year. Some of this population increase is attributable to annexations although most of the annexations during that period were vacant lands. During this same 5-year time period the Police Department has seen the number of incidents requiring police assistance increase from 750 calls for service in 2001 to 2400 calls for service in 2006. This is a increased change in service demand of 220% over 5 years, or an average increase of about 26.5% per year.

Existing Conditions
The 2003-2022 City of Liberty Lake Comprehensive Plan establishes the following levels of service (LOS) based on Countywide Planning Policies standards for urban areas:
1 patrol officer per 1000/populatioin calls for service per year. In 2006, the City of Liberty was approximately 6000 people. According to the adopted LOS measurement, the minimum staffing level requires 6 officers. In 2006, the City of Liberty Lake Police Department employs 8 officers, which means that the City is achieving the adopted LOS standard.

An interlocal agreement between City of Liberty Lake and Spokane County also provides for a joint local organization for emergency service. The interlocal agreement allows the Spokane County to perform specific services in the City of Liberty Lake and other areas of the County when called upon. Some of these services include: providing additional manpower, a canine unit, and a S.W.A.T. team when needed.

When parts of UGA areas are annexed to the City, demand for law enforcement from the County Sheriff's Office will be reduced. At the same time, there will be an immediate and financial and resource impact on the City of Liberty Lake Police Department.

3.3.1.5. Law Enforcement – Impacts

The City of Liberty Lake in conjunction with the Police Department currently determines personnel and resource needs based on calls for service, and population growth projections. Population growth and infill developments are expected to create additional demand for law enforcement services under all alternatives. Annexations are expected to create fiscal and service area impacts for law enforcement agencies under Alternatives 2-7.

Alternative 1 – No Action

Under this alternative, growth would occur within existing City at existing zoning and increased residential densities.

- Create Increased traffic congestion and increased response time for emergency vehicles;
- Require recruitment, training, and hiring of additional officers; and
- Require additional law enforcement response equipment to maintain existing service levels
- Create the need for larger Liberty Lake police station

Alternatives 2-7 – Adjusted UGA

Under these alternatives, land inside the City and retain its existing zoning and possibly slightly higher residential densities and the UGA boundary would be expanded as much as necessary to accommodate the projected population growth at urban residential densities. Wherever the UGA boundary is expanded, land will be rezoned from rural densities to urban densities and will become eligible for annexation to the City. Similar to Alternative 1, expansion of the UGA boundary at urban residential densities would be expected to:

- Create Increased traffic congestion and increased response time for emergency vehicles;
- Require recruitment, training, and hiring of additional officers; and
- Require additional law enforcement response equipment to maintain existing service levels
- Create the need for larger Liberty Lake police station

3.3.1.6. Law Enforcement - Mitigating Measures

Regardless of the growth alternative adopted, new funding sources will have to be secured in order to sustain adopted levels of service. The best option for mitigation is to encourage continued coordination between law enforcement agencies.

3.3.1.7. Public Schools - Existing Conditions

Public education in the Liberty Lake area is provided by Central Valley School District (CVSD). The East Valley School District provides educational services in the area identified north of the Spokane River as Alternative #3. Both school districts are responsible for planning, financing, constructing, and maintaining public school facilities. School district boundaries do not coincide with city limits, urban growth areas, or Spokane County planning subarea boundaries.

Enrollment and school capacity data are measured by full-time-equivalent (FTE) students, rather than “head count” (the total number of students enrolled). Students who attend only half- or part-time in the preschool programs, alternative schools or in kindergarten are counted in relationship to a full school day. FTE numbers are lower than headcounts and better represent the actual impact on facilities.

The inventory and analysis of capacity requirements are presented two ways: 1) with interim (i.e., portable) facilities, and 2) without interim facilities. The individual districts’ capital improvement projects are based on the capacity without portables because they have significant limitations, such areas as heating, ventilation, noise, security, restrooms,

storage cupboards and intercom communications. For those reasons, portables are not considered permanent capacity by Washington State or by the districts. The capacity of portable rooms is presented in order to show the interim facilities that the districts use 1) to meet short-term enrollment fluctuations, or 2) to serve as temporary facilities until permanent facilities are built.

Capacity figures are usually based on teacher-to-student ratios (expressed as students per classroom) that the school district determines to be most appropriate to accomplish its educational program. These ratios are contained in employment agreements between districts and their teachers. Individual school districts will determine their own Level of Service standards and may request the City to adopt the standards as a component of its Capital Facilities Plan.

3.3 Central Valley School District

School	Existing Capacity
Elementary Schools (K-6)	
Adams	466
Broadway	379
Chester	442
Greenacres	591
Liberty Lake	650
McDonald	450
Opportunity	456
Ponderosa	488
Progress	416
South Pines	460
Sunrise	638
University	488
Total Elementary Permanent Facilities	6,360
Total Elementary Interim (Portable) Facilities	110
Total Elementary Permanent and Interim Facilities	6,470

Middle Schools (7-8)	
Bowdish	554
Evergreen	560
Greenacres	587
Horizon	590
North Pines	700
Total Middle School Permanent Facilities	2,991
Total Middle School Interim (Portables) Facilities	75
Total Middle School Permanent and Interim Facilities	3,066

Senior High Schools	
Central Valley	1,800
University	1,800
Total Senior High School Permanent Facilities	3,600
Total Senior High School Interim (Portables) Facilities	64
Total Senior High School Permanent & Interim Facilities	3,664

Source: Central Valley School District

(1) Time Period	(2) Enrollment	(3) Existing Capacity	(4) Interim Capacity	(5) Net Reserve or Deficiency: Permanent Facilities	(6) Net Reserve or Deficiency: All facilities
Elementary School (K-6)					
2006 Actual	5,241	6,350	110	1,119	1,129
2006-2011: Growth	572	450		-122	-122
Total as of 2011	5,813	6,810	110	997	1,107
Capacity Projects: Complete construction of one new elementary before 2011					
Middle Schools (7-8)					
2006 Actual	2,690	2,991	29	301	330
2006-2011: Growth	415	650	0	235	235
Total as of 2001	3,105	3,641	29	536	565
Capacity Projects: Replace Evergreen Middle and construct 1 new middle school before 2011					
Senior High Schools (9-12)					
2006 Actual	3,613	3,600	64	-13	51
2006-2011: Growth	393	0	0	-393	-393
Total as of 2011	4,006	3,600	64	-406	-342
Capacity Projects: None					

Source: Central Valley School District Capital Facility Plan for 2005-2006 to 2011

3.3.1.7.2. East Valley School District

School	Existing Capacity
Elementary Schools (K-5)	
East Farms	500
Otis Orchards	500
Skyview	500
Trent	550
Trentwood	500
Total Elementary Permanent Facilities	2,550
Total Elementary Interim (Portable) Facilities	100
Total Elementary Permanent and Interim Facilities	2,650

Middle Schools (6-8)	
East Valley	600
Mountain View	500
Total Middle School Permanent Facilities	1,100
Total Middle School (Portable) Facilities	0
Total Middle School Permanent and Interim Facilities	1,100

Senior High Schools (9-12)	
East Valley	1,600
Total Senior High School Permanent Facilities	1,600
Total Senior High School (Portable) Facilities	100
Total Senior High School Permanent and Interim Facilities	1,700

Source: East Valley School District

Table PS-7. East Valley School District Facility Capacity Requirements and Proposed Capacity Projects through 2006-2011 School Year

(1) Time Period	(2) Enrollment	(3) Existing Capacity	(4) Interim Capacity	(5) Net Reserve or Deficiency: Permanent Facilities	(6) Net Reserve or Deficiency: All facilities
Elementary School (K-6)					
2006 Actual	2,489	2,550	100	61	161
2006-2011: Growth	42	0	0	-42	-42
Total as of 2011	2,531	2,550	100	19	119
Capacity Projects: None					
Middle Schools (7-8)					
2006 Actual	750	1,100	0	350	350
2006-2011: Growth	-33		0	33	33
Total as of 2001	717	1,100	0	383	383
Capacity Projects: None					
Senior High Schools (9-12)					
2006 Actual	1,688	1,600	100	-88	12
2006-2011: Growth	-71			71	71
Total as of 2011	1,617	1,600	100	-17	83
Capacity Projects: None					

Sources: Enrollment Data from State of Washington, Superintendent of Public Instruction Capacity Date from Table PS-6
District's interim capacity may be reduced when the District's permanent capacity is increased and portables are removed.

3.3.1.7.2. School Impact Fees

The GMA allows cities and counties to collect impact fees, on behalf of public school districts, for public school facilities (RCW 82.050 - .100). Currently the City of Liberty Lake is the only municipality proposing to collect impact fees for needed school facilities.

3.3.1.8. Public Schools - Impacts

The school districts currently determine public school facility, personnel, and resource needs based on existing zoning, residential densities, and population growth projections. Population growth and infill development projects are expected to increase the demand for public school services under all alternatives.

Alternative 1 – No Action

Under this alternative, infill growth would occur within existing city limits at existing zoning and increased densities. Generally, the no action alternative would be expected to:

- Require additional school facilities to maintain adequate service levels
- Require recruitment and hiring of additional teachers, special educators, administrators, and support staff; and
- Create increased traffic congestion and increased time and expense for school bussing programs.

If the existing zoning, city limits, and UGA boundaries do not change, then the available land supply in City of Liberty Lake and the existing UGA would be consumed early within the 20- year planning period. Land and housing prices would be expected to escalate

quickly and development would be expected to occur in rural areas and other where land and housing prices are available.

Alternatives 2-7 – Adjusted UGA

Under this alternative, land inside the City and existing UGA would retain its existing zoning and possibly slightly higher residential densities and the UGA boundary would be expanded as much as necessary to accommodate the projected population growth at urban residential densities. Wherever the UGA boundary is expanded, land will be rezoned from rural densities to urban densities and will become eligible for annexation to the City. Similar to Alternative 1, adjusting the UGA boundary at existing residential densities would generally be expected to:

- Create urban density development around the existing City limits;
- Require additional school facilities to maintain adequate service levels;
- Require recruitment and hiring of additional teachers, special educators, administrators, and support staff, and
- Create increased traffic congestion and increased time and expense for school bussing programs.

3.3.1.9. Public Schools - Mitigating Measures

- Central Valley & East Valley School Districts should examine City and County land supply analysis maps, continue to monitor demographic changes (particularly distribution of students), and take a proactive stance in planning for the neccessary facilities to meet the needs of an expanding student population;
- Central Valley & East Valley School Districts should work with the City of Liberty Lake and Spokane County Planning Departments to ensure consistency between School District Capital Improvement Plans and the City and County Comprehensive Land Use Plans
- School Districts could seek approval of bond issues and capital levies to address major school facility needs.
- School Districts could examine the possibility of building smaller neighborhood oriented schools that would allow more students to walk or ride to school, which could decrease the cost of providing school bus service.
- Adoption of a school impact fee program throughout Spokane County that serve Central Valley & East Valley School Districts
- School Districts could examine possible ways to maximize use of existing school facilities, such as split shift school days where some students attend morning classes and some students attend afternoon/evening classes.

3.3.1.10. Parks, Recreation, and Open Space - Existing Conditions

Land set aside for recreation, parks, or open space influences quality of life, and has important economic, recreational, environmental and aesthetic benefits. A wide variety of neighborhood and community parks, open space areas, trails, greenways and recreational opportunities are within the Liberty Lake area. These park and recreation facilities and open spaces are essential to a community's well being. Parks and open spaces help mitigate urban development, provide important ecological functions and provide recreation opportunities for citizens and visitors.

The Countywide Planning Policies for Spokane County requires all jurisdictions to adopt a Level of Service (LOS) standard for parks. The City has the flexibility and freedom to establish a LOS standard for parks that reflects the expressed need and desire of the community. The City also has the obligation to ensure that the operation and maintenance needs of existing parks are met. The City's Parks and Open Space LOS is 30 acres per 1000 population which the City exceeds. The City presently boasts a Parks and Open Space LOS of 92 acres per 1000.

Currently, the 14-acre Pavillion Park is the only City owned and maintained park. The Trailhead Golf Course which is also owned by the City, is maintained by the City and paid for through user fees. Other public parks in the City are Five Fingers Park, Little Bear Park, Pumphouse Park, and the Liberty Lake Elementary School facilities. The City of Liberty Lake has approximately 400 acres of Parks and Open Space, including Pavillion Park and three golf courses which total 346.6 acres as well as our existing residential open/ common space which exceeds 50 acres.

The Greenacres Landfill Reclamation Site that is identified as Open Space /Recreation on the Comprehensive Plan Land Use Map is not included within the inventory because as a reclamation site it is not useable for 50 years from the date it was designated, which is outside of the 20 year planning horizon. The site including the buffer area totals 57.8 acres and is contained within a residential plat. In addition the City has the Rocky Hill neighborhood which includes a public park site that will be approximately 17 acres in size.

3.3.1.11. Parks, Recreation, and Open Space - Impacts

As the population of City of Liberty Lake and Spokane County grows, under all alternatives, there will be an increasing need for parks, trails and recreation facilities as well as increased pressure to develop potential open space areas. Under all of the growth alternatives, some growth of park and recreational facilities will need to occur. As areas develop there will be decreasing opportunities to acquire or preserve open space and parkland, and increasing use of existing facilities and open space areas. As the land supply decreases, it is likely that the cost of acquiring land for parks or open space will increase.

The Adjusted UGA alternatives will increase the amount urban residential units and thereby increase and concentrate the demand for activity centers, parks and open space. The No Action alternative will increase the need for recreational facilities and parks within City of Liberty Lake and allow lower density development outside the UGA which will decrease the opportunities to acquire additional park and open space properties.

3.3.1.12. Parks, Recreation and Open Space - Mitigating Measures

- The City of Liberty Lake and Spokane County should continue to review and revise adopted levels of service and Capital Facilities Plans, in order to adapt to changing demands.
- The City of Liberty Lake and Spokane County should coordinate planning and acquisition efforts in order to maximize opportunities.
- In accordance with the GMA, areas should be identify as appropriate sites for recreation and open space in relation to environmentally sensitive land and areas with increased density.

- Preserve existing sensitive areas to utilize as open space by encouraging development regulations that promote clustered, mixed use, high-density development.
- Continue to implement and update the goals and policies in the Parks, Recreation and Open Space chapter of Liberty Lake's Comprehensive Plan along with the appropriate functional & capital facilities plans.
- Maintain existing levels of service for park, recreation, and open space facilities.
- Consider adoption of park, recreation and open space impact fees for new development.
- Develop and implement various financial incentives to preserve open space areas, including but not limited to tax benefits, purchase or donation of conservation easements, and the purchase or transfer of development rights.
- Continue to utilize grants, donations and other funding sources to acquire parks and open space.
- Collaborate with private and public organizations to identify, acquire preserve, operate and maintain park and open space areas.
- Identify and preserve critical areas such as stream corridors to establish links between opens spaces and parks.
- Utilize existing funding sources such as conservation futures and explore new funding sources, such as bonds, to acquire parks and open space areas.
- Combine recreational amenities, such as trails, with critical areas and open space, where there is an adequate buffer from wetlands and topography suitable for the development of safe public recreational facilities.

3.3.1.13. Water Supply

3.3.1.13.1. Water Supply - Existing Conditions

Water facilities, such as water mains and pump stations, provide for the safe and efficient delivery of water to the community. The Liberty Lake Sewer and Water District & Consolidated Irrigation currently provide the public water services with the City of Liberty Lake. The existing water supply level of service standard is to provide reliable water service for domestic use, fire flow protection and emergencies. All future development must demonstrate that there is adequate water for the proposed use and that fire flow requirements can be met. Water level of service standards differ depending on the type of use and its location

The City relies on groundwater from the Rathdrum/Spokane Aquifer System for its water needs. The aquifer also serves several neighboring communities. The pumping capacity is determined partly by groundwater rights. The City's future water needs will be met through continued use of groundwater resources. The water purveyors will need to continue to ensure there is an adequate supply of water for current and anticipated demand, without adversely impacting water quality or artificially over-allocating resources to single customers or groups of customers. On the capacity side, the water purveyors should continue to develop strategies to ensure there is adequate water capacity to serve anticipated levels of development. Future funding sources for improvements will continue to be connection fees, ratepayers, and property tax.

Current capacity and facility information is not available through either water purveyor as each are in the process of updating their water system plans which include inventories and anticipated capital projects.

3.3.1.13.2. Water Supply - Impacts

While the growth alternatives discussed in this EIS are based on the same 20-year population projection, each alternative distributes the growth (primarily the residential growth) in different ways. The alternatives differ in the amount of land required for urban growth and the intensity with which that land is developed in terms of residential densities, allowable building height, and size and floor area of commercial and industrial structures.

Population growth is expected to create additional water demand for residential, commercial, and industrial uses under each of the alternatives. Increased demand due to population growth will require additional infrastructure, such as storage tanks, water mains and pump stations, but the impacts vary by geographic area.

Alternative 1 - No Action

Under this alternative, infill growth would occur within existing City limits and UGA boundaries at existing zoning and increased densities. Generally, the No Action Alternative would be expected to:

- Continuation of urban residential development at increased densities in the City. The net effect of this development pattern would create a shortage of land for urban residential development resulting in increased housing costs and pushing development impacts into the rural areas of the county.
- Increase efficiency and cost-effectiveness of public water supply infrastructure;
- Require extension of water supply infrastructure improvements and maintenance of new, extensive water supply infrastructure; and
- Require water districts to assess the demand for water from the supply system, estimate system improvements, and upgrade distribution system to meet the need.
- Increase the proliferation of individual wells as primarily source of water for low-density development.

Alternatives 2-7 - Adjusted UGA

Under these alternatives, land inside the City would retain its existing zoning and possibly slightly higher residential densities and the UGA boundary would be adjusted sufficiently to accommodate the projected population growth. Land added to the UGA would be rezoned from rural densities to urban densities of at least 4 units per acre

These areas would become eligible for public sewer and water and annexation. Expansion of the UGA boundary under urban development conditions would be expected to have impacts similar to Alternative 1, except the increased proliferation of individual wells as primarily source of water for low-density development would be eliminated.

3.3.1.13.3. Water Supply - Mitigating Measures

- The water purveyor’s water systems plans needs to be coordinated with the Liberty Lake Comprehensive Plan to ensure that the overall management of the water system is balanced and integrated properly.

- All areas that exist outside the City of Liberty Lake UGA, including public water districts and community water associations, need to be evaluated for any detrimental effects they may have on the drinking water system as a whole.
- A water conservation program including distribution of water saving devices along with public education will help to limit water waste.
- An analysis of water rights is necessary to determine if the supple meets the projected growth.

3.3.1.14. STORMWATER – EXISTING CONDITIONS

Surface water management deals with the detention/ retention and movement of water on the surface of the ground, typically associated with stormwater. The control of storm water is essential to preventing property damage due to flooding and to prevent the degradation of water quality. To this end, the developments within the City have historically committed substantial resources to providing adequate stormwater management facilities. The City's existing minimum LOS standard for surface water drainage requires that all private or public on-site or off-site storage, conveyance and treatment facilities result in no degradation to downstream water quality and quantity below established standards.

The City of Liberty Lake's stormwater runoff flows to a combination of public and private facilities. In undeveloped areas, most runoff is conveyed through roadside ditches. In the developed areas, runoff flows down street gutters and is generally discharged into the ground through infiltration facilities such as drywells and grassy swales in public road rights-of-way or on private property. Detention ponds are used to store and slow down runoff before it is discharged to drainage ways or into an infiltration area. In areas with physical constraints such as soils or geology unsuitable for infiltration, evaporation ponds are used to store stormwater runoff until it can evaporate.

The City has initiated the review of its existing stormwater standards to determine if modifies to the standards are necessary to make them equivalent to the Eastern Washington Stormwater Manual. The Eastern Washington Stormwater standards are considered to be the accepted "Best Management Practices" for treatment of stormwater.

3.3.1.15. Stormwater – Impacts

Alternative 1 – No Action

The no action alternative would leave the zoning and growth areas as they are now and require construction of storm water and drainage facilities as development occurs within existing City limits.

Alternatives 2-7 – Adjusted UGA

Enlarging the UGA has the potential to create impact without careful planning. These alternatives would require an expansion of stormwater facilities where none currently exist. Degradation of water quality due to development requires "Best Management Practices" to mitigate. Sensitive water bodies such as Liberty Lake and Spokane River will require additional protection under any alternative.

3.3.1.16. Stormwater - Mitigating Measures

- In order to mitigate detrimental impacts, new development and redevelopment should utilize all known and reasonable technologies (AKART) to limit its effects on stormwater and the environment.
- Low Impact Development standards and technologies should be incorporated wherever possible to aid in the reduction of stormwater impacts.
- The recommendation within WRIA planning process should be implemented.
- Regulations that govern ongoing stormwater discharge from existing developed areas should be vigorously enforced to limit pollutant loading.
- To the extent that is financially possible, existing stormwater systems should be retrofitted with Best Management Practices (BMP's) that reduce pollutant loading from the existing condition.
- Developed areas known to be discharging pollutants to sensitive water bodies such as Liberty Lake and Spokane River should take immediate corrective actions to mitigate pollutant loading.

3.3.1.17. Sanitary Sewer -- Existing Conditions

3.3.1.17.1 Liberty Lake

A sanitary sewer system handles the sewage needs for the City. The City's minimum LOS standard within the City is to provide sanitary sewer service to all new development.

The LLSWD operates a 2 million gallons per day (MGD) treatment plant currently permitted for 1-MGD and is treating approximately 700,000 gallons a day. The initial Spokane County Comprehensive Wastewater Management Plan (CWMP), prepared in 1981, specified that the District's facility would be an "interim" facility, with eventual discharge to regional interceptors and treatment at the Spokane Regional Plant. The District made application to Spokane County, pursuant to RCW 36.94, for amendment of the CWMP to provide for expansion of the District's treatment facility from 1 to 2 MGD.

The LLSWD's system consists of a wastewater treatment facility, gravity and pressure lines, and pump stations. The District has 31.9 miles of sewer mains and 450 manholes. The current facility has a NPDES permit limit of 895,000 gallons per day without additional phosphorous removal. The District has upgraded the treatment plant total hydraulic capacity to 2 million gallons per day and the treatment capacity to 1 million gallons per day under existing TMDL standards. The improvements to the sewer treatment plant will provide for meeting the future requirements and the Level of Service will meet LOS standards.

3.3.1.17.2. Spokane County

Spokane participates in the Regional Treatment Facility. The Riverside Park Water Reclamation Facility (RPWRF) currently has a rated capacity of 44 MGD. The City of Spokane is working on an expansive program to increase both the capacity and the level of treatment at the plant. Additionally, other programs are underway to substantially reduce inflow and infiltration in the City's collection system.

In 1982 the City of Spokane and Spokane County entered into an Interlocal Agreement wherein the County purchased 10 million gallons per day (MGD) of capacity in the regional RPWRF. Currently, the County is utilizing approximately 7.6 MGD of that 10 MGD, including waste from the town of Millwood, which has contracted with Spokane

County to accept and dispose of wastewater flows. At this time, the County projects that its wastewater flow will reach 10 MGD by the end of 2012. (The flow projections are currently being reviewed and updated in conjunction with the work on an update to the Wastewater Facilities Plan.)

Since 2003, the dischargers, municipalities and the county has been in a protracted collaborative process with the Washington State Department of Ecology regarding water quality requirements in the Spokane River specifically related to the Dissolved Oxygen Total Maximum Daily Load (TMDL). Recently, a Foundational Concepts document for the TMDL has been prepared and is in the process of being approved. The execution of an agreement with Ecology around this document will allow a new regional treatment plant to be build and increased discharge to occur locally.

Initially, the plant will be constructed to a capacity of 8 mgd. It is projected that this capacity will last until approximately year 2030. The new plant is being planned for expansion increments of 4 mgd, and the plant is expandable up to approximately 20 mgd.

It is anticipated that the plant can handle up to 50 years of future growth.
An estimate of the cost for wastewater treatment has been provided for this Capital Facilities Plan based on escalation of previous estimates provided in the 2002 Wastewater Facilities Plan Amendment. An update to that plan is underway to address additional treatment requirements necessary to meet the TMDL, and will be completed by early 2007, at which time more accurate cost estimates will be available.

To achieve TMDL compliance a Foundational Concepts document was crafted identifying a number of requirements, as described below.

In order for the Spokane River to meet state water quality standards, it is anticipated that reduction of Non-Point Sources (NPS) of phosphorus into the river will need to occur. Subsequently, it is anticipated that a more regional revenue source will be developed on a watershed basis. In addition the Foundational Concepts document calls for implementation of in-home water conservation program.

Additionally, municipal wastewater agencies that discharge into the Spokane River to produce Class A effluent that is suitable for reclamation, and to evaluate the feasibility of implementing effluent reuse opportunities, such as urban irrigation, industrial reuse, aquifer recharge, and wetlands restoration.

3.3.1.18. Sanitary Sewer -- Impacts

While the growth alternatives discussed in this EIS are based on the same 20-year population projection, each alternative distributes the growth (primarily the residential growth) in different ways. The alternatives differ in the amount of land required for urban growth and the intensity with which that land is developed in terms of residential densities, minimum lot sizes, allowable building height, and size and floor area of commercial and industrial structures.

Population growth is expected to create additional demand for sanitary sewer infrastructure under all alternatives, but the impacts vary by geographic area and are different for each alternative.

This DEIS anticipates that all alternatives will have the following general impacts on sanitary sewer infrastructure for City of Liberty Lake, and the UGA:

Alternative 1 - No Action

Under this alternative, infill growth would occur within existing City limits and UGA boundaries at existing zoning and increased densities. Generally, the No Action Alternative would be expected to:

- Continue residential development at increased urban densities. The net effect of this development pattern would create a shortage of land for urban residential development resulting in increased housing costs and pushing development impacts into surrounding rural areas of the county.
- Increase efficiency and cost-effectiveness of public sewer infrastructure;
- Require extension of sewer infrastructure;
- Require maintenance of new and existing sewer infrastructure;
- Require sewer treatment providers to assess the demand for sewage treatment and to treat sewage to meet the need;
- Increase the proliferation of on-site septic systems as primarily source of wastewater treatment for low-density development.
- Increase the risk of surface and groundwater contamination due to individual septic system malfunction and failure in areas

Alternatives 2-7 - Adjusted UGA

Under these alternatives, land inside the City and existing UGA would retain its existing zoning and possibly slightly higher residential densities and the UGA boundary would be adjusted sufficiently to accommodate the projected population growth. Land added to the UGA would be rezoned from rural densities to urban densities of not less than 4 units per acre and would become eligible for public sewer and water and annexation. Expansion of the UGA boundary at existing residential densities and under existing development conditions would be expected to have impacts similar to Alternative 1, except for:

- A decrease in the proliferation of on-site septic systems as the primarily source of wastewater treatment for low-density development because connection to a central system would be required prior to development.
- A decreased risk of surface and groundwater contamination due to individual septic system malfunction and failure because connection to a central system would be required prior to development.

3.3.1.19. Sanitary Sewer – Mitigating Measures

- Currently the regional system is implementing an infiltration/inflow abatement program for management of the wastewater collection system. The transmission and treatment capacity of the sewer system is greatly impacted by positively removing areas of infiltration/inflow. This will reduce the need for future capital improvements and limit the costs associated with maintenance and operation.
- Specific planning needs to occur when areas are under consideration for annexation or expansion of the boundaries of the service areas. Zoning and development must follow a comprehensive plan to ensure that no unnecessary improvements are required due to loss of available sanitary sewer system capacity.

3.3.1.20. Solid Waste - Existing Conditions

3.3.1.20.1. Curbside Garbage Collection

All homes, businesses, and public facilities within the planning area generate municipal solid waste (household trash or garbage). The Waste Management (WM) Inc under contract with the City collects municipal solid waste from residential customers within the City of Liberty Lake. WM is certified by the Washington State Utilities and Transportation Commission and has the exclusive right to collect garbage within the City. WM collects and processes solid waste from the City "drop boxes" and loads and transports this solid waste via truck to the Regional Waste to Energy Plant.

3.3.1.20.2. Curbside Recycling Collection

Curbside recycling collection is available on a weekly basis on the same day of the week as garbage collection. Recyclable materials are used to produce glass, steel, and aluminum (35 % by weight (bw)), paper (31% bw), newspaper (22% bw), and cardboard (12 % bw). The remainder is burned, which generates power.

3.3.1.21. Solid Waste -- Impacts

Solid waste normally contains fairly harmless parts (such as food scraps and paper). It can also contain dangerous chemicals such as pesticides, cleaning chemicals, and paints. The availability of such toxins will increase, as they become part of various industrial and retail products. An excellent example of this is the easy availability of pesticides and herbicides. Over 10,000 new chemicals are brought into the market every year. Few are tested for their toxicity or durability in the environment.

Although the percent of solid waste recycled is increasing, so is the amount of solid waste generated per person and the population. As a result, the total amount of solid waste generated throughout the country is increasing. Unless the percent of solid waste recycled increases or the amount of solid waste per person decreases, the total solid waste produced by citizens of the city will increase. As solid waste generation increases, the resultant air, water, and land pollution will also increase.

As all alternatives assume the same population growth projections, the total amount of solid waste generated will be similar. In general solid waste, recycling, and yard waste pickup can be done more economically under alternatives that limit the geographic extent of urban development.

Alternative 1 – No Action

Under this alternative, growth would occur within existing City limits and UGA boundaries at existing zoning and increased residential densities with no adjustment to the UGA boundary. Generally, this alternative would be expected to:

- Exhaust the available urban residential land supply without accommodating the population growth projected for the 20-year planning period;
- Push projected residential development into rural areas;
- Create a low-density development around the existing City limits and UGA; and
- Create increased traffic congestion, increased travel time, increased expense, and decreased efficiency for solid waste, recycling, and yard waste pickup and hauling companies.

Alternative 2-7 – Adjusted UGA

Under these alternative, land inside the City and existing UGA would retain its existing zoning and possibly slightly higher residential densities and the UGA boundary would be expanded as much as necessary to accommodate the projected population growth at existing residential densities. Wherever the UGA boundary is expanded, land will be rezoned from rural densities to urban densities and will become eligible for annexation to the City. Similar to Alternative 1, expansion of the UGA boundary at existing residential densities would be expected to:

- Create urban density development around the existing City limits; and
- Generate additional vehicle trips and create increased traffic congestion, increased travel time, increased expense, and decreased efficiency for solid waste collection, recycling, and yard waste pickup and hauling.

3.3.1.22. Solid Waste -- Mitigating Measures

- Continue to seek alternative and environmentally safe ways to dispose of refuse.
- Coordinate refuse plans with the City of Liberty Lake's population projections and land use plans.
- Encourage the current public service agencies to continue to pick up re-usable clothing.
- Expand these operations to include all reusable substances by offering free solid waste disposal of any reusable substance
- Continue educational programs that encourage waste reduction, proper disposal of hazardous waste, recycling, and other programs that promote alternative ways to dispose of solid waste.
- Encourage the 3-R (reduce/reuse/recycle) and "Third Arrow" philosophies, where a product is not purchased if not needed, reused or purchased second hand, recycled only when their lifetime is over, and recycled products are purchased.

Solid Waste -- Unavoidable Adverse Impacts

- The amount of solid waste generated by the citizens of Liberty Lake will increase.
- Appropriate locations to safely dispose of this waste will decrease
- Household waste that becomes contaminated by hazardous materials will produce either additional air toxins if such waste is burned, or contamination to ground water if it is put into landfills.

3.3.1.23. Electricity and Natural Gas Services - Existing Conditions

Electricity Service

Avista Power transmits electricity into Liberty Lake. All residents and employees in the area depend on a steady flow of electricity for light, heat, and the operation of machinery, which makes the use of modern technological conveniences possible.

Natural Gas

Avista Gas distributes Natural Gas in Liberty Lake. Natural gas is a fuel provided to homes and businesses through underground piping. It is a colorless, odorless,

flammable, and lighter than air gas. Gas is odorized to make gas leaks more perceptible. Most natural gas in Liberty Lake area is used for space and hot water heating. Natural gas is a key alternative for achieving electric power conservation goals.

3.3.1.24. Electricity and Natural Gas Services - Impacts

Electricity Service

As the region grows, demand for electricity will increase. The electrical transmission system can now carry only a certain amount of electricity (This is called "capacity"). When demand exceeds existing capacity, additional capacity must be added or the system begins to fail. Brown-outs and black-outs are symptoms of system failure. Additional capacity is provided by new lines and substations to serve growth areas and by the reconstruction of existing lines. Such facilities can only be placed in specific areas (near population centers, on the shortest route possible between high voltage lines and demand, and on rights of way and easements). Most of these areas are near existing residences. Discovering areas which meet the needs of facilities and which are not close to residences will become more difficult as density increases.
As the need for power increases, new transmission lines will be constructed. The Infill and No Action alternatives will have shorter line length but may require larger structures to carry more power. The Adjusted UGA will have longer line lengths but may require smaller structures. These lines could have a potentially negative impact on views.

Natural Gas

Natural gas produces carbon dioxide as it burns. This is a fairly harmless gas, but does contribute to global warming. Natural Gas used for heating produces less carbon dioxide than coal and oil burned to create electricity to use for heating.

As demand for natural gas increases, some increase in the size of natural gas pipelines may be needed. Aged or damaged pipelines may cause natural gas to leak out of the lines and into the environment, increasing the potential for accidents to occur.
The demand for electricity and natural gas utilities and services is expected to increase under all alternatives.

Alternative 1 – No Action

Under this alternative urban growth would occur within existing City limits at existing zoning and increased residential densities.
Generally, the no action alternative would be expected to:

- Push development and population growth into the rural areas;
- Create low-density development around the existing City limits; and
- Require new additional electricity and gas infrastructure facilities to serve new development

Alternative 2-7 – Adjusted UGA

Under these alternatives land inside the City and existing UGA would retain its existing zoning and possibly slightly higher residential densities and the UGA boundary would be expanded as much as necessary to accommodate the projected population growth at urban residential densities. Wherever the UGA boundary is expanded, land will be rezoned from rural densities to urban densities and will become eligible for annexation to

the City. Similar to Alternative 1, expansion of the UGA boundary at existing residential densities would generally be expected to:

- Require new additional electricity and gas infrastructure facilities to serve the new development

3.3.1.25. Electricity and Natural Gas Services - Mitigating Measures

- The City should continue to review, in residential zones, the construction of new electrical facilities (transmission lines and substations) for local impacts.
- Construction of electrical facilities near schools should not be allowed unless no significant EMF impact can be shown; and Avista should coordinate electric and gas demand planning with City and County Planning Departments and Comprehensive Plan documents.

3.4 LAND USE; POPULATION, HOUSING AND EMPLOYMENT GROWTH FORECASTS; AND LAND SUPPLY ANALYSIS

3.4.1. Existing Conditions

3.4.1.1. Land Use

Upon incorporation on August 31, 2001, the City of Liberty Lake adopted the Spokane County Comprehensive Plan as the Interim City Comprehensive Plan. Since September 2003, land use in the City of Liberty Lake has been guided by the 2003 - 2022 Adopted City of Liberty Lake Comprehensive Plan. It included all the elements required under the provisions of the State Growth Management Act (GMA), as well as several optional elements. This plan contains goals and policies within sections on Land Use, Urban Design / Community Character, Transportation, Housing, Utilities, Economic Development, Parks, Recreation, & Open Space, Natural Environment, Cultural & Historical Resources, Community & Human Services, Essential Public Facilities, and Capital Facilities. At the time of the City Comprehensive Plan creation, the City explored extending the Urban Growth Area (UGA), however, the City Council chose to stay with the status quo or no action alternative. Since the City of Liberty Lake incorporated in 2001 and completed adopted a Comprehensive Plan in 2003, the City was not in the Spokane County update schedule. Spokane County is now undergoing an update of their Comprehensive Plan and the Urban Growth Area (UGA) boundary review. The City of Liberty Lake has now received an updated population allocation and must review our urban growth capabilities concurrently with the other jurisdictions within Spokane County. The many issues associated with population growth in general is the central reason for creating this document. Spokane County's Interim Urban Growth Area (IUGA) was established in 1997 and adopted shortly after City incorporation as part of the Spokane County Comprehensive Plan. The Countywide Planning Policies were adopted in the late 1990's and updated in 2004 to give policy direction to jurisdictions within Spokane County during the mandatory update process and UGA and Joint Planning Area establishment. The County Comprehensive plan contains general goals and policies applicable to all urban growth areas. Although under the jurisdiction of Spokane County, the manner and scale of growth in the UGA will have a tremendous impact on the future of the City of Liberty Lake. This EIS is intended to contribute important information to help the City and County update the UGA. The following section is intended to provide a basic understanding of the existing pattern of land use and development in the City and the existing Spokane County UGA surrounding the City.

3.4.1.1.1. City of Liberty Lake Land Use

Located within Spokane County, the City of Liberty Lake is generally described as the area east of the City of Spokane Valley, 3 miles west of the Idaho State Line, north of Liberty Lake and Sprague Ave., and south of the Spokane River. Liberty Lake includes approximately 3,937 Acres (6+ Square Miles). The Liberty Lake area was inhabited by Native Americans centuries before the first white settlers came to the area. In 1808, David Thompson, a fur trader, arrived in the area and was soon followed by missionaries. Native Americans still occupied Liberty Lake and surrounding areas as the white settlers began to arrive. Liberty Lake was originally named Lake Grier, but was later re-named after a Frenchman from Canada, Etienne Eduard Laliberte, who came to Liberty Lake in 1871 after changing his name to Stephen Liberty while carrying mail over the Mullan Trail to Rathdrum. Stephen Liberty and his family homesteaded on the west side of the lake. By the early 1900's, while farming was still continuing in the area, several resorts were being developed around Liberty Lake, and the Lake was quickly becoming a vacation destination for the residents of Spokane and other surrounding areas. By 1951, there were six resorts operating on Liberty Lake and four public beaches. Liberty Lake was becoming known as a suburb of Spokane and development was limited to the Lake area, south of Sprague Avenue. The Liberty Lake Golf Course, the first of the three golf courses in Liberty Lake, was constructed on the northeast corner of Sprague Avenue and Molter Road in 1959. By the 1960's, many of the original attractions around the Lake were gone. Spokane County bought and created the almost 3000 acre Spokane County Regional Park in 1966. By the 1970's, more resorts had closed and the areas were converted into housing developments. In 1991, the last resort on the Lake at Sandy Beach closed. However, the 1970's and 1980's brought a surge in recreational, residential, and commercial / industrial activity north of Sprague Avenue that would eventually be encompassed within the City of Liberty Lake. By the time the City of Liberty Lake incorporated on August 31, 2001, the area within the City limits contained a mix of housing, commercial, and industrial development. Land use within the City is governed by the City Development Code adopted in December 2005. The City land use categories and acreages are shown in the table 3.4 below.

Zones	**Approximate Acreage**	**Approximate Percentage of City Area**	**Approximate Vacant Buildable Land**
R-1 (SINGLE FAMILY RESIDENTIAL) ZONE	1527.55	38.8 %	140 Acres Unplatted
R-2 (MIXED RESIDENTIAL) ZONE	104.65	2.7 %	82 Acres Unplatted
R-3 (MULTI-FAMILY RESIDENTIAL) ZONE	41.77	1.1 %	2.5 Acres Undeveloped
M-1 (NEIGHBORHOOD CENTER MIXED USE) ZONE	8.70	.02 %	1.3 Acres Undeveloped
M-2 (COMMUNITY CENTER MIXED USE) ZONE	478.90	12.2 %	408 Acres Undeveloped
M-3 (CENTRAL BUSINESS DISTRICT MIXED USE) ZONE	83.35	2.1 %	16 Acres Undeveloped
C-1 (COMMUNITY COMMERCIAL) ZONE	100.06	2.5 %	83 Acres Undeveloped

C-2 (FREEWAY COMMERCIAL ZONE)	360.54	9.2 %	179 Acres Undeveloped
I (LIGHT INDUSTRIAL) ZONE	320.24	8.1 %	90 Acres Undeveloped
P (PUBLIC / SEMI-PUBLIC INSTITUTIONAL) ZONE	90.35	2.3 %	8 Acres Undeveloped
O (OPEN SPACE / RECREATION) ZONE	535.89	13.6 %	
AESTHETIC CORRIDORS / BOULEVARDS	285.00	7.2 %	
	3937 Acres		

TABLE 3.4

The City Development Code contains the Zoning and the Subdivision Ordinances, Design & Development Regulations, as well as the Environmental Ordinance which control land development in Liberty Lake.

Residential Development
Residential development is the dominant land use in the City in terms of total acreage. Approximately 43% of the total land area is zoned for residential development. The number of dwelling units / lots per neighborhood as of August 1, 2006 is summarized in Table 3.2, below. The density calculation is based on total lots / buildable acres, however the amount of right of way area was not available to give an exact net density calculation.

TABLE 3.5

Plat File #	Developed Plats	Total Lots	Vacant Lots	Current Zoning	Total Acres	Open / Common Acres	Buildable Acres	Density
P-0447-58	Liberty Lake Heights Addition	94	1	R-1	52	0	52	1.8
P-1135-77	Liberty Lake Heights 1st Add.	28	0	R-1	8.6	0	8.6	3.3
P-1227B-78	Homestead Addition	96	0	R-1	34.03	0	34.03	2.8
P-1227I-78	Homestead 7th Addition	4	0	R-1	1.12	0	1.12	3.6
P-1227J-78	Homestead The Gardens	27	0	R-1	11.06	0.68	10.38	2.6
P-1227K-78	Homestead The Cottages 1st Add.	57	0	R-1	16.81	0.24	16.57	3.4
P-	Homestead	24	0	R-1	6.47	0.41	6.06	4.0

1227L-78	The Cottages 2nd Add.							
P-1227M-78	Homestead The Gardens 1st Add.	65	0	R-1	22.064	0.68	21.384	3.0
P-1227N-78	Homestead Cottages Duplexes	40	0	R-2	7.34	0.2	7.14	5.6
P-1227O-78	Homestead The Cottages 3rd Add. (Houses)	45	0	R-1	58.53	3.45	55.08	N/A
P-1227Q-78	Homestead Gardens Ridge	81	0	R-1	19	6.36	12.64	6.4
P-1227R-78	Homestead The Gardens 2nd Add.	122	0	R-1	36.72	2.32	34.4	3.5
P-1392-80	Homestead Townhouses	51	0	R-3	7.25	0.16	7.09	7.2
P-1552-87	Meadowwood Vistas 1st Add.	23	0	R-1	8.15	0	8.15	2.8
P-1552A-87	Meadowwood Village Phase 1	24	0	R-2	5.71	0.76	4.95	4.8
P-1552B-87	Meadowwood Estates Phase 1	22	0	R-1	10.91	2.02	8.89	2.5
P-1552C-87	Meadowwood Vistas 2nd Add.	12	0	R-1	4.92	0	4.92	2.4
P-1552D-87	Meadowwood Vistas 3rd Add.	36	0	R-1	15	0	15	2.4
P-1552E-87	Meadowwood Village Phase 2	38	0	R-2	9.45	2.48	6.97	5.5
P-1552F-87	Meadowwood The Meadows	54	0	R-1	16.03	1.84	14.19	3.8
P-1552G-87	Meadowwood Estates Phase 2	12	0	R-1	4.11	0.53	3.58	3.4
P-1552H-87	Meadowwood The Meadows 1st Add.	127	0	R-1	34.45	2.28	32.17	3.9
P-	Meadowwood	22	0	R-1	9.77	2	7.77	2.8

1552J-87	The Greens (Grayhawk)							
P-1552K-87	Meadowwood Glen	38	0	R-1	13.1	3.59	9.51	4.0
P-1552L-87	Meadowwood Vistas 4th Add. (Liberty Landing)	98	0	R-1	27.92	1.35	26.57	3.7
P-1552M-87	Meadowwood The Meadows 2nd Add.	75	0	R-1	17.73	0.8	16.93	4.4
P-1552N-87	Meadowwood Glen 1st Add.	27	0	R-1	7.62	1.89	5.73	4.7
P-1552O-87	Woodbrook at Meadowwood	18	0	R-1	5.6	1.84	3.76	4.8
P-1552P-87	Meadowwood Glen 2nd Add.	35	0	R-1	11.33	1.5	9.83	3.6
P-1552Q-87	Estates at Meadowwood	77	14	R-1	27.54	9.6	17.94	4.3
P-1806-96	Liberty Lake Heights 2nd Add.	35	0	R-1	9.86	0	9.86	3.5
P-1816-96	Ridgeview Estates (Lakeridge)	17	1	R-1	6.2	1.3	4.9	3.5
P-1552R-87	Meadowwood The Meadows 3rd Add.	56	0	R-1	17.34	1.21	16.13	3.5
P-1878-00	River Crossing Addition	51	0	R-1	13.00	0	13.00	4.0
P-1292-79	Cronk Addition (Mobile Homes)	15	0	R-1	4.00	Approx. 0	4.00	3.8
P-1293-79	Greenacres Estates (Mobile Homes)	53	0	R-1	10.00	Approx. 0	10.00	5.3
SP-84-345	SP-84-345 (1 Mobile Home + 1 House)	2	0	R-1	1.06	0	1.06	1.9
P-1183-	Mission Villa (Mobile	67	0	R-2	14.00	Approx.	14.00	4.8

78	Homes)					0		
SP-94-1006	SP-94-1006 (Mobile Homes)	7	0	R-2	3.93	0	3.93	1.8
	Developed Total	**1775**	**16**		**589.72**	**49.49**	**540.23**	
Plat File #	**Partially Developed Plats (Preliminary Plat Est.)**	**Total Lots**	**Vacant Lots**	**Current Zoning**	**Total Acres**	**Open / Common Acres**	**Buildable Acres**	**Density**
P-1748-94	Legacy Ridge (formerly The Highlands)	524	474	R-1	581.13	238.94	342.19	1.5
P-03-0001	Rocky Hill	504	434	R-1	152.97	27.52	125.45	4.0
P-1914-02	River Crossing PUD	487	429	R-1	144.03	22.72	121.31	4.0
	Partially Developed Total	**1515**	**1337**		**878.13**	**289.18**	**588.95**	
Plat File #	**Undeveloped Plats (Preliminary Plat Est.)**	**Total Lots**	**Vacant Lots**	**Current Zoning**	**Total Acres**	**Open / Common Acres**	**Buildable Acres**	**Density**
P-1552I-87	Meadowwood Tract F (Vintage Condos)	*16*	*16*	R-1	5.2	0	5.2	3.1
P-1886-01	Bella Lago	47	47	R-1	44.8	2.8	42	1.2
P-1821-96	Grande Vista Estates	0	0	N/A	N/A	5	N/A	N/A
	Undeveloped Total	**63**	**63**		**50**	**7.8**	**47.2**	
Plat File #	**Individual Existing Residential Parcels**	**Total Lots**	**Vacant Lots**	**Current Zoning**	**Total Acres**	**Open / Common Acres**	**Buildable Acres**	**Density**
N/A	Parcel 55084.9017 (Vacant)	1	1	R-1	4.85	0	4.85	N/A
N/A	Parcel 55084.9016 (House)	1	0	R-1	4.85	0	4.85	N/A

Single Family Residential Grand Total - 8/1/06	**3355**	**1417**		**1527.6**	**346.5**	**1186.1**	**4.02 Avg.**

The average density for single family homes in Liberty Lake is 4.02, however, this density does not reflect a true net density with right-of-way removed. The actual density for single family homes within Liberty Lake would likely be closer to 5 dwelling units per acre net density. When Liberty Lake's multi-family dwelling units are added to the average single family density of 4.02, the City's average existing density calculates out to 4.58.

Existing Multi-Family Units	**Total # of Units**	**Vacant Units**	**Current Zoning**	**Total Acres**	**Open / Common Acres**	**Buildable Acres**
Big Trout Lodge	521	30	R-3	Within Developed Res. Plats		
Country Vista Apartments	192	57	M-2	10.69	46% Lot Coverage	
Multi-Family Residential Total - 8/1/06	**713**	**87**		**10.69**		

Existing Specialty Housing (Senior Units)	**Total # of Units**	**Vacant Units**	**Current Zoning**	**Total Acres**	**Open / Common Acres**	**Buildable Acres**
Guardian Angel Homes Assisted Living	60	4	R-3	2.87		
Guardian Angel Homes Retirement Apartments	8	0	R-3			
Specialty Residential Total - 8/1/06	**68**	**4**		**2.87**		

TABLE 3.6

Residential Market Profile				
Average Home Sales Price	**2006 Market Figure (6/30/06)**	**2005 Market Figure (6/30/05)**	**2004 Market Figure (6/30/04)**	**2000 US Census Figure**
	$325,926	$278,491	$223,169	$180,287

Residential Market Activity *	**Median Sales Price**	**Average Sales Price**	**Lowest Sales Price**	**Highest Sales Price**	**Average Days on Market**
1/1/04 - 6/30/04	$199,900	$223,169	$95,000	$609,000	39
1/1/05 - 6/30/05	$234,990	$278,491	$60,500	$900,000	29
1/1/06 - 6/30/06	$267,500	$325,926	$14,000	$962,650	39

Sales by price range	**$0 - $159,999**	**$160,000 - $199,999**	**$200,000 - $249,999**	**$250,000 - $299,999**	**$300,000 +**

1/1/04 - 6/30/04		22 %	28 %	13 %	27 %	10 %
1/1/05 - 6/30/05		9 %	17 %	35 %	14 %	26 %
Sales by price range	**$0 - $119,999**	**$120,000 - $159,999**	**$160,000 - $199,999**	**$200,000 - $249,999**	**$250,000 - $299,999**	**$300,000 +**
1/1/05 - 6/30/05	2 %	7 %	17 %	34 %	14 %	26 %
1/1/06 - 6/30/06	2 %	6 %	1 %	26 %	29 %	36 %

Sales by home size	**Total Sold**	**# of Bedrooms**	**# Sold**	**Average Price**	**Average Days on Market**
1/1/04 - 6/30/04	113 Homes	2 or less	14	$202,752	51
		3	47	$190,533	31
		4	33	$253,010	46
		5 or more	19	$267,114	40
1/1/05 - 6/30/05	101 Homes	2 or less	17	$200,126	
		3	42	$248,294	
		4	34	$317,327	
		5 or more	8	$438,499	
1/1/06 - 6/30/06	82 Homes	2 or less	12	$179,673	
		3	30	$305,793	
		4	26	$353,174	
		5 or more	14	$443,822	

***** Data for entire Liberty Lake Community obtained from John Orr's RE Report 7/2/04, 7/11/05, & 7/13/06, may not contain FSBO.

Mixed Use, Commercial, and Light Industrial Land Uses
Approximately 20% of the total City acreage is zoned for commercial and industrial development and approximately 14% of the City is zoned for mixed use development. All three existing zoning categories allow a mix of commercial and light industrial uses, however mixed use areas also allow residential uses. Currently the Country Vista Apartments (identified in the table above) is the only residential use in a mixed use zone, however in the near future additional residential uses are anticipated. In 2006, the City had over 100,000 square feet of office space, almost 500,000 square feet of restaurant, retail, or service space, and over 2,000,000 square feet of light industrial or manufacturing space.

Public, Semi-Public, Institutional and Open Space / Recreation Land Uses
Over 90 acres or 2% of the City is zoned for public, semi-public, and institutional land uses, of which only 8 acres remains undeveloped. Public, semi-public, & institutional zoning is used for schools, our sewer treatment plant, fire station, and other municipal or public type uses; however many of the municipal facilities are allowed in and currently located in one of the mixed use zones and the Liberty Lake City Hall is located in an R-3 (multi-family residential) zone. Over 500 acres or 13% of the City is zoned for open space/ recreation uses. Open space/ recreation zoning is used for a range of public uses, including parks, recreational facilities, trails, open space, and associated uses.

3.4.1.1.2. Urban Growth Area Land Use

The Spokane County UGA was first established in 1997. The County identified and designated the area as appropriate for urban levels of development at that time. Spokane County placed urban designations on land in the UGA and urban levels of development began to occur. There is are only two existing Spokane County Urban Growth Areas (UGAs) abutting the City of Liberty Lake. One area is southwest of the City limits and also abuts the City of Spokane Valley. This area is developed and primarily used for single family residential uses on .25 to 1 acre lots with little opportunity for infill. The residential uses comprise approximately 200 acres of the area. The remainder of the area is used for a gun range that comprises approximately 89 acres that would not be suitable for urban development with the existing use and adjacent vacant parcels that comprise approximately 24 acres. The other area is south of the City limits, approximately 15 acres in size, and contains a condominium development.

3.4.1.2. Population

The Washington State Growth Management Act requires cities and counties to adopt comprehensive plans and set urban growth area boundaries to accommodate the projected population. Countywide population growth projections must be within the range provided by the State Office of Financial Management (OFM). Growth forecasts help communities to plan for land use, transportation, environmental protection, neighborhood character, school capacity, parks and open space, police, fire and emergency services and affordable housing to meet the needs of the projected population.

3.4.1.2.1. City of Liberty Lake Population Forecast/ Allocation, 2006 – 2026

On May 23, 2006, the 20-Year Population Allocation for 2006-2026, was adopted by the Board of County Commissioners through Resolution Number: 6-0438. Between 2006 and 2026, Spokane County must plan for an additional 197,639 people. Liberty Lake's portion of the population allocation is an additional 15,586 people for a total population of 22,511 over the next 20 years. The City's growth rate was calculated at 6.7% and the City would assume 3% of the County's population allocation, however historically, Liberty Lake’s growth has represented over 10% of the County’s total population growth. This has been a consistent trend for over a decade. Under the current zoning and development regulations, 15,861 people can be accommodated within the existing Liberty Lake city limits. The City's 2006 OFM population is 5,805, however the actual population is likely closer to 7,000 based on the August 2006 residential inventory. The following Table 3.4 represents the population allocations for Spokane County and the municipalities within it.

TABLE 3.7

2006-2026 OFM MEDIUM FORECAST + 12.5% VARIANCE

County	STEERING COMMITTEE	% OF TOTAL	OFM MEDIUM	Plus 12.5%	TOTAL - MED. FORECAST	2006 est	Anual Rate	2006-2026 ADD'L
Municipality	Recommended Allocation	ALLOCATION	FORECAST	Variance	12.5% VARIANCE	POPULATION	Of Growth	ALLOCATION
Spokane	668,671		568,142.00	71,018	639,160	441,521	1.87%	197,639
Unincorporated	197713	30%	167,989	20,999	188,987	122,914	2.17%	66,073
Airway Heights	10730	2%	9,117	1,140	10,256	5,190	3.46%	5,066
Cheney	14028	2%	11,919	1,490	13,409	10,120	1.42%	3,289
Deer Park	6150	1%	5,225	653	5,879	3,400	2.78%	2,479
Fairfield	850	0%	722	90	812	600	1.53%	212
Latah	309	0%	263	33	295	214	1.63%	82
Liberty Lake	22511	3%	19,127	2,391	21,517	5,931	6.66%	15,586
Medical Lake	5426	1%	4,610	576	5,187	4,388	0.84%	798
Millwood	1831	0%	1,556	194	1,750	1,659	0.27%	91
Rockford	761	0%	647	81	727	488	2.01%	239
Spangle	645	0%	548	69	617	295	3.75%	322
Spokane	283171	42%	240,599	30,075	270,673	200,439	1.51%	70,235
Spokane Valley	124368	19%	105,670	13,209	118,879	85,754	1.65%	33,125
Waverly	178	0%	151	19	170	129	1.39%	41

3.4.1.3. Employment Projections 2006 – 2026

Economic growth has remained steady over the past few years and this trend is expected to continue. The number of businesses has continued to rise yearly; while the number of people employed in the City and the number of building permits issued has slightly varied. Between July 2003 and October 2006, the number of businesses in the City increased yearly for a total increase of over 35%. Between July 2003 and October 2006 the number of people employed in the City rose 18% overall, but 2004 and 2005 were slightly lower than 2003. Between 2003 and 2005 residential building permits and valuations continued to rise, while the commercial, industrial, and public permits decreased slightly, but the valuations varied drastically. Through the end of October 2006, 70 single family residential permits and 18 commercial, industrial, or public permits have been issued. By the end of 2006, single family residential permits issued will likely be slightly lower than 2005, but the commercial, industrial, and public permits will be equal to or greater than the number issued in 2005. As the number of businesses and people employed within the City rises, the need for additional housing units to accommodate employees will likely increase. The following table 3.4 represents these trends.

TABLE 3.8

New Construction*	**2005 Permits**	**2005 Valuation**	**2004 Permits**	**2004 Valuation**	**2003 Permits**	**2003 Valuation**
Single Family Residential **	113	$19,615,268	87	$12,248,546	88	$10,856,700
Specialty Housing ***	0	N/A	0	N/A	0	0
Rental Apartments	0	N/A	1 (192 unit complex)	$12,869,528	0	0
Commercial / Industrial / Public ****	19	$12,352,653	23	$43,469,171	24	$1,033,019

* Number of building permits issued and approximate total valuation for entire year.

** Townhouse condos are counted as single family homes.

*** Includes independent senior, assisted living, nursing home, convalescent home, & Alzheimer's facilities.

**** Includes tenant improvements.

Businesses in Liberty Lake *	**October 2006**	**July 2005**	**July 2004**	**July 2003**
# of businesses in the City	258	196	193	190
# of people employed in the City	5499	4383	4376	4670

Largest employers by category in the City (300 or more employees)	**October 2006**	**July 2005**	**July 2004**	**July 2003**
Manufacturing / R&D	2667	1536 +	1500 +	1525 +/-
Insurance	621	329 +	320 +	325 +/-

Medical / Dental	460		418 +	430 +	420 +/-
Retail & Grocery	450		401 +	470 +	450 +/-
Service	392		354 +	350 +	325 +/-

Businesses - Number & Percentage of Total	**October 2006**		**July 2005**		**July 2004**	**July 2003**
Specific business categories	**#**	**%**	**#**	**%**	**%**	**%**
Communications	1	0.5	1	0.5	1.0	1.0
Construction	14	5.5	11	5.5	5.0	4.5
Financial	12	4.5	10	5.0	5.0	6.0
Hotel / Motel	2	0.5	2	1.0	1.0	1.0
Insurance	7	2.5	4	2.0	2.0	3.0
Manufacturing / R&D	19	7.5	16	8.0	8.0	9.0
Medical / Dental	19	7.5	18	9.0	9.0	9.0
Professional	35	13.5	27	14.0	14.0	12.0
Publishing	1	0.5	1	0.5	1.0	1.0
Real Estate & Development	6	2.5	6	3.0	2.5	2.0
Recreation / Fitness	5	2.0	4	2.0	2.0	1.5
Restaurant - Full Service	5	2.0	4	2.0	3.0	3.0
Restaurant - Fast Food / Deli	12	4.5	11	6.0	5.5	6.0
Retail & Grocery	51	20.0	33	17.0	16.0	14.5
Service & Sales (personal, automotive, & childcare)	62	24.0	43	22.0	22.5	24.0
Storage	2	0.5	2	1.0	1.0	1.0
Wholesale	5	2.0	3	1.5	1.5	1.5

* Figures are approximate and were obtained by polling each business and through City business license records. Non-profits not included.

Largest Private Employers	**October 2006**	**July 2005**	**July 2004**	**July 2003**
100 + employees	• Accra-Fab • Agilent Technologies • Altek Machining and Molds • Home Depot • Huntwood	• Accra-Fab • Agilent Technologies • Altek Machining and Molds • Getronics • Isothermal	• Accra-Fab • Agilent Technologies • Altek Machining and Molds • Getronics • Isothermal	• Agilent Technologies • Altek Machining and Molds • Isothermal Research Systems (ISR)

	• Isothermal Systems Research (ISR) • Itronix Corp. • Merck-Medco • Safeco Insurance • Software Spectrum • Spokane Teacher's Credit Union (STCU) • Telect	Systems Research (ISR) • Itronix Corp. • Merck-Medco • Safeco Insurance • Software Spectrum • Telect	Research Systems (ISR) • Itronix Corp. • Merck-Medco • Safeco Insurance • Software Spectrum • Telect	• Itronix Corp. • Safeco Insurance • Software Spectrum • Spokane Teachers Credit Union (STCU) • Telect

3.4.1.4. Liberty Lake Commercial, Industrial, Public, and Mixed Use Land Supply

The Liberty Lake Planning & Community Development Department conducted a survey of the commercial, industrial, public, and mixed use zoned lands in the City in 2006. Vacant and underutilized lands (land that has the potential to add more development under current rules) were identified. The result is an estimate of the total land potentially available for commercial, industrial, public, and mixed use development (or total supply). The total land supply was then reduced to eliminate public and quasi-public lands and critical areas (erodible soils & flood hazard areas). The net developable acres may be further reduced by market factor and required infrastructure. Within the City limits, there will likely be a new middle school and a new elementary school constructed within the next 20 years which will require approximately 35 acres (7 acres for an elementary school and 28 acres for a middle school and there are approximately 40 acres of critical areas. The results of the land supply analysis are shown in Table 3.5.

TABLE 3.9

Commercial, Industrial, Public, and Mixed Use Land Supply	**City Limits**		**Existing UGA**	
	Commercial, Industrial, Public	**Mixed Use**	**Commercial, Industrial, Public**	**Mixed Use**
Undeveloped Acres	360	425	24	0
Public / Quasi Public Acres	- 35	0	0	0
Critical Areas	0	-40	0	0
Net Developable Acres	**325**	**385**	**24**	**0**

The net developable commercial, industrial, public, and mixed use land supply within the City of Liberty Lake is 710 acres, and the net developable supply in the Existing UGA is 24 acres. The combined net developable commercial, industrial, public, and mixed use land within the City and Existing UGA is 734 acres. Using an acreage compared to 2006 number of employees figure of 8.3 employees per acre, if the employment trend continues and 200 employees are added per year, an additional 24 acres will be utilized each year. The supply of 734 acres of undeveloped commercial, industrial, public, and mixed use land will be meet the City's needs within the next 20 years; however larger employers and types of uses in the mixed use zones could affect the projection.

3.4.1.5. Liberty Lake Commercial, Industrial, Public, and Mixed Use Land Demand

The City currently has approximately 325 acres of commercial, industrial, and public land that is available for development and 385 acres of mixed use land that is available for development. The existing UGA has 24 acres of commercial, industrial, and public land that is available for development. The existing land supply should accommodate our economic growth over the next 20 years. All three existing zoning categories allow a mix of commercial and light industrial uses, however mixed use areas also allow residential uses. Therefore for purposes of evaluating land supply, it is necessary to combine the demand forecasts for commercial, industrial, public, and mixed use lands.

3.4.1.6. Residential Land Supply

One of the key requirements of the GMA is that cities and urban growth areas must show that they have enough properly zoned, developable land area to accommodate the projected growth for a 20-year planning period. The Liberty Lake Planning & Community Development Department conducted a survey of the residentially zoned land in the City in 2006. Unplatted and vacant lands were identified and underutilized lands (land that has the potential to add more development under current rules) were investigated, however currently there is no partially-used or under-utilized residential land available within the City. The result is an estimate of the total land potentially available for residential development (or total supply). The total land supply was then reduced to eliminate critical areas (erodible soils & wetlands). The net developable acres may be further reduced by market factor and required infrastructure. Within the City limits, there are approximately 15 acres of critical areas, since the majority of our critical areas were identified as open space. The results of the land supply analysis are shown in Table 3.6.

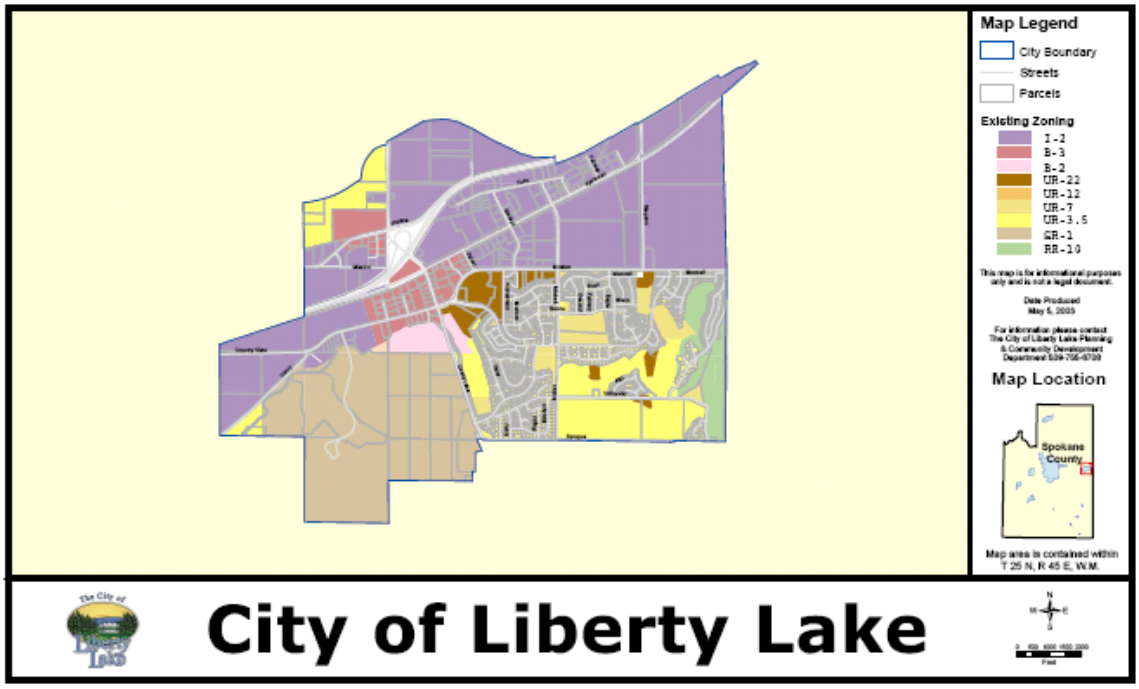
TABLE 3.10

Residential Land Supply	**City Limits**	**Existing UGA**
Unplatted Acres	224.5	0
Critical Areas	15	N/A
Net Developable Acres	209.5	0

Additionally, there are 1417 vacant platted parcels for single family homes and 87 vacant multi-family units. There are also 4 available specialty housing (senior) units available as of August 2006. The net developable unplatted residential acreage within the City of Liberty Lake is 209.5 acres, and the net developable supply in the Existing UGA is 0 acres for a total available unplatted residential land supply of 209.5 acres. Based on a minimum urban density of 4 units per acre, the vacant unplatted residential land within the City will accommodate 838 units. Additional units may be accommodated on the vacant unplatted residential land and within the mixed use zones based on future development proposals with increased densities. A Liberty Lake Land Quantity Analysis and Urban Services Report for Population Allocation was completed in June of 2004 based on the Spokane County Zoning Code, the City's Interim Zoning Code which designated additional multi-family land uses and gross densities. Gross density is units or lots per acre or gross number of lots divided by gross number of acreage. Also in 2004, the Future City Annexation Area (FCAA) was not annexed into the City yet. In 2004 with the increased multi-family lands, it was calculated that within the existing City limits, 10,511 persons could be accommodated and it was also calculated that 5350

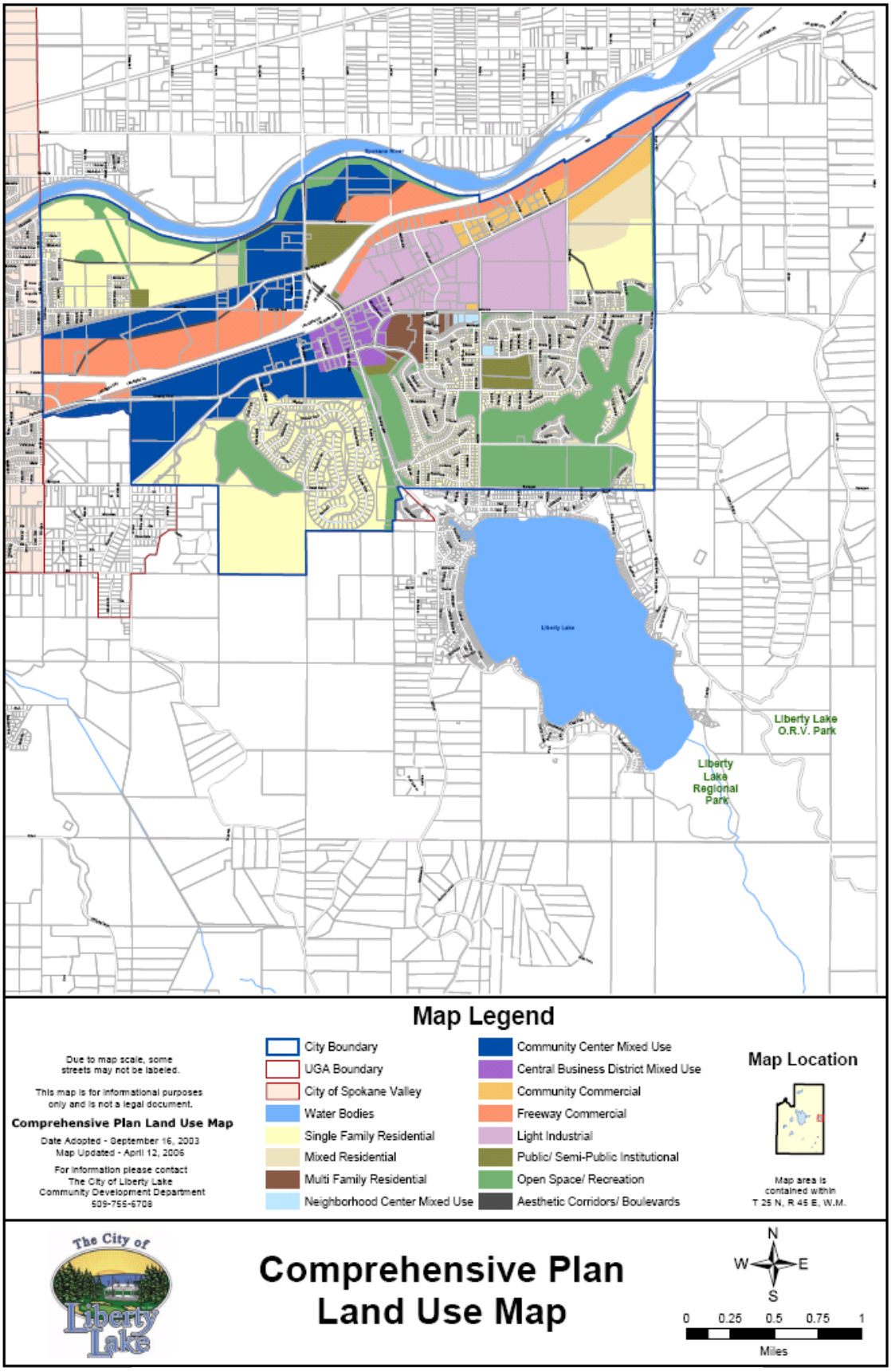
persons could be accommodated within the FCAA for a total urban buildout population of 15,861 within the existing City limits and the FCAA. In December 2005, the new City Development Code was adopted which reduced the amount of multi-family and industrial land, but increased the amount of single-family designations and added the mixed use and open space designations. The City Development Code also calculates density based on a net density. Net Density is units or lots per acre minus the right-of-way, parks, open space, and any other non-residential use which gives a more accurate density at time of development. The Future City Annexation Area (FCAA) was annexed into the City of Liberty Lake in March 2006. Since there is no way to accurately calculate the amount of residential uses that will be developed within the City's mixed use zones, the City will utilize the original 15,861 population for calculating urban buildout within the existing City limits area. The following maps offer a comparison between the original City land uses and the new City land uses.

City of Liberty Lake 2004



MAP 3.1

City of Liberty Lake 2006



MAP 3.2

The results of the residential development projections are shown in Table 3.7.

TABLE 3.11

Residential Development Projections	Vacant Unplatted Residential Land	Single-Family	Rental Apartments (est.)	Specialty Housing
Aug. 2006 - Vacant Lots/ Units		1417	87	4
Available Land Accommodation	838 units			
# of Persons Per Household (average household size)	x 2.75	x 2.75	x 2.75	x 1
Accommodated Additional Population Within City Limits	2304.5	3896.75	239.25	4
Total Available Capacity Within City Limits (2006)	6445 Persons			
2006 OFM Population	5805			
Total Capacity Within City Limits (2006)	12,250 Persons			
Total Land Capacity Within the Previous City Limits (2004)	10,511 Persons			
Total Land Capacity Within the FCAA (2004)	5350 Persons			
Adjusted Total Land Capacity Within the City Limits (2006)	15,861 Persons			
2006 - 2026 Population Allocation	22,511			
	The City of Liberty Lake anticipates the need to accommodate an additional 6,650 People Over the Next 20 Years			

3.4.1.7. Residential Land Requirements 2006-2026

The GMA requires that each jurisdiction have enough developable land to accommodate the 20-year projected population growth. The previous section established that, based on population growth projections, the City of Liberty Lake must accommodate an additional 6,650 people over the next 20 years so an additional 2,418 dwelling units will be needed. Based on a 4 unit per acre urban buildout and an average household size of 2.75 persons per household, this housing demand would require 605 acres of net developable residential land. Options to increase residential land capacity include:

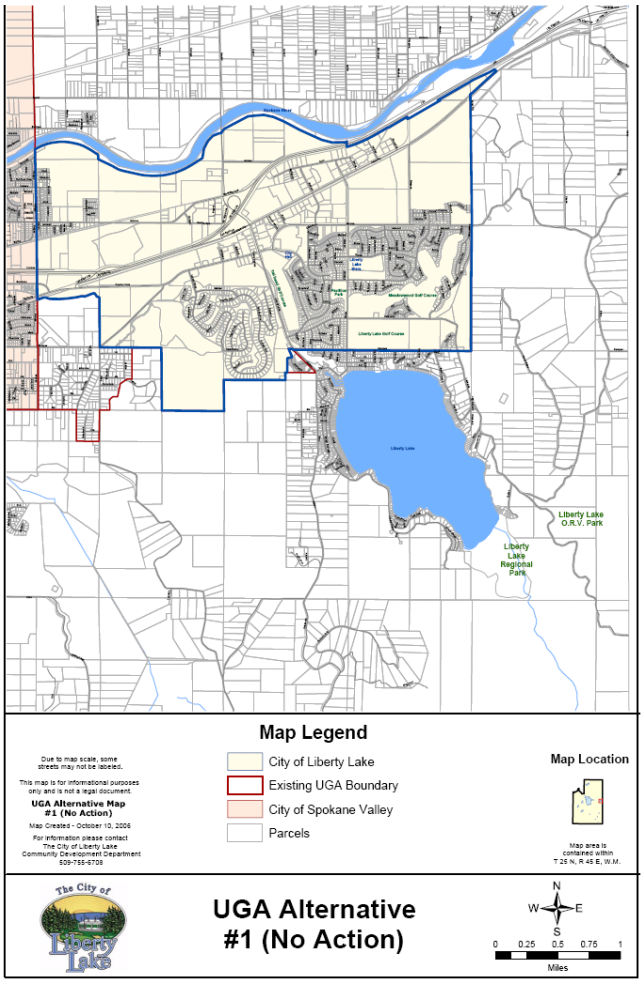
- revising zoning and development regulations in appropriate areas of the City to allow higher density residential development (Alternative 1);
- expanding the boundaries of the UGA to make more land available for residential development (Alternative 2);
- Any combination of the above (Alternatives 3 - 7).

3.4.1. Population Growth and Land Demand – Impacts of the Alternatives

All of the alternatives studied in this EIS assume that population in Liberty Lake will increase by 15,586 over the next 20 years. Each of the alternatives studied in this document implies a different distribution pattern of development for the forecasted population, housing, and employment growth as discussed below.

3.4.2.1. Alternative 1 – No Action

MAP 3.3



Under Alternative 1, the No Action Alternative, in addition to previous assumptions of 5,768 units within the existing City limits, an additional 2,418 dwelling units would need to be accommodated within the existing City limits. Within the City, an increase in density would be required for new developments in the residential zones and a mandatory residential component would likely have to be added to the mixed use zones.

The rural land surrounding the City was divided into a NW Area (approximately 250 acres) and a SW area (approximately 2000 acres) for the City's UGA Boundaries Study. The NW Area is currently zoned Urban Reserve (approximately 250 acres) by Spokane County and the SW Area has three Spokane County Zoning Designations. Urban Reserve (approximately 150 acres), Rural Traditional (approximately 1100 acres), and Rural Conservation (approximately 750 acres). The following table is from the Spokane County Zoning Code and identifies the approved density for the rural zones.

TABLE 3.12 ', Density Standards for Rural Zones

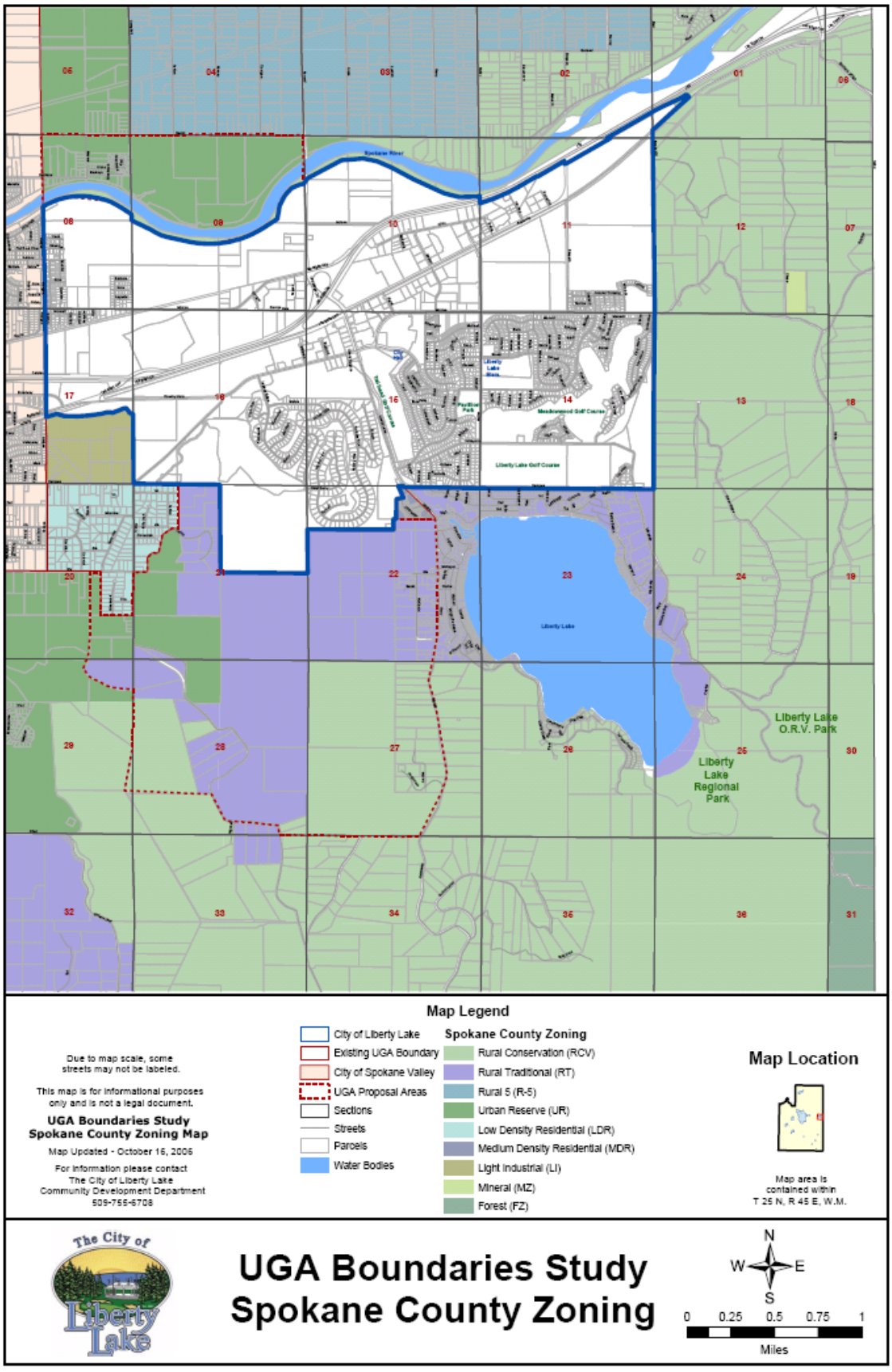
	Rural-5	*Rural Traditional*	*Rural Activity Center*	*Urban Reserve*	*Rural Conservation*
Maximum residential density	1 unit per 5 acres	1 unit per 10 acres	3.5 units per acre	1 unit per 20 acres	1 unit per 20 acres
Maximum residential density for rural cluster developments[1]	1 unit per 5 acres	1 unit per 10 acres	Not applicable	1 unit per 5 acres	1 unit per 10 acres

[1]See chapter 14.820, Rural Cluster Development for additional standards for Rural Cluster Development.

Based on the adopted zoning, the gross NW Proposal Area could accommodate approximately 12.5 - 50 units, depending on development patterns. Based on the adopted zoning, the gross SW Proposal Area could accommodate approximately 155 to 215 units, depending on development patterns. However when you deduct the existing parcels with suburban to urban sized homesites that are not acceptable for infill and the critical areas, the net developlable acreage is substantially reduced. Development under the existing zoning would also mean additional septic tanks and water wells to accommodate the rural growth since urban utilities cannot be extended outside the UGA. Additionally, a preliminary plat for Saltese Hilltop Acres was approved by Spokane County in 2001 for 107 lots on 550 acres located east of Henry, west of Molter, south of 8th, and north of Saltese Lake. The Saltese Hilltop Acres would be serviced by public water and a community septic system.

While commercial, light industrial, and mixed use growth can currently be accommodated within the City limits and the existing UGA over the next 20 years, the no action alternative would likely affect the mixed use zones which could affect the projections. Accommodating the additional population within the City limits would likely mean requiring a residential component in the mixed use zones which could significantly reduce the land available for commercial and light industrial growth. Additionally, the projected economic growth will bring additional employees to Liberty Lake that may require additional housing.

The following Map 3.1 identifies the existing Spokane County Zoning surrounding the City of Liberty Lake.


Liberty Lake O.R.V. Park
Liberty Lake Regional Park
Liberty Lake
Map Legend
City of Liberty Lake
Existing UGA Boundary
City of Spokane Valley
UGA Proposal Areas
Sections
Streets
Parcels
Water Bodies
Spokane County Zoning
Rural Conservation (RCV)
Rural Traditional (RT)
Rural 5 (R-5)
Urban Reserve (UR)
Low Density Residential (LDR)
Medium Density Residential (MDR)
Light Industrial (LI)
Mineral (MZ)
Forest (FZ)
Due to map scale, some streets may not be labeled.
This map is for informational purposes only and is not a legal document.
UGA Boundaries Study
Spokane County Zoning Map
Map Updated - October 16, 2006
For information please contact
The City of Liberty Lake
Community Development Department
509-755-6708
Map Location
Map area is contained within T 25 N, R 45 E, W.M.
The City of Liberty Lake
UGA Boundaries Study
Spokane County Zoning
N
W
E
S
0
0.25
0.5
0.75
1
Miles

MAP 3.4

The 1990 State Growth Management Act and the City's Comprehensive Plan both contain goals and policies that require the City to plan for and manage the forecasted growth. The City Comprehensive Plan and the GMA recognize that the real threat to the region's environment and quality of life is not simply population growth, but the continuation of past low density development patterns that will impact rural lands.

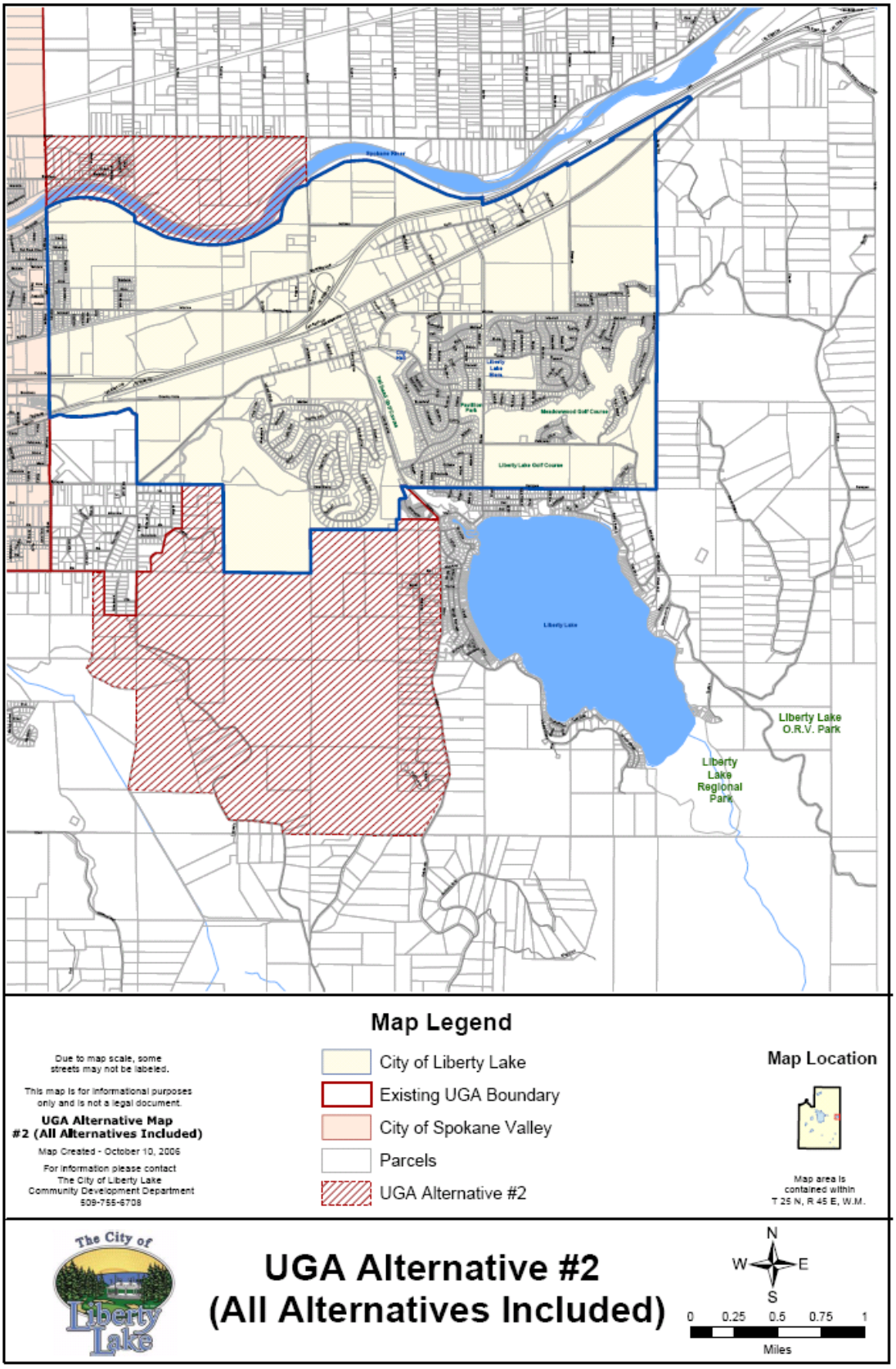
Generally, Alternative 1 would be expected to have the following impacts:

- New single family development within the City would have to be a higher density than existing single family developments.
- Further increases in the cost of housing as the urban area land supply gets tighter.
- A residential requirement would likely be required in the City's mixed use zones.
- Potential negative effects on the City's current economic growth with a loss of potential employees and can't find housing or the quality of life they are requiring.
- Additional rural development will occur in the rural areas of Spokane County surrounding Liberty Lake with additional septic systems and private wells within Critical Aquifer Recharge Areas.

Mitigating Measures

1. Make better use of the remaining land supply by:
   - Reducing the number of dwelling units "lost" due to land set aside for roads and other utilities in new developments. This could be accomplished by revising development standards to allow flexible road standards and/or by reducing or eliminating the street tree and urban streetscape requirements.
2. Adopting higher minimum density requirements in targeted areas appropriate for growth.

3.4.2.2. Alternative 2 – All Alternatives



MAP 3.5

Under Alternative 2, the All Alternatives Included, land inside the existing City limits would retain adopted zoning and residential densities. Since previous assumptions of 5,768 units within the existing City limits were already planned for, the additional 2,418 dwelling units or 6,650 people would be accommodated in areas that would be added to the UGA and rezoned for urban densities and uses. Alternative 2 examines areas outside the existing UGA boundary for potential inclusion in the UGA and rezone to urban densities. The entire NW Proposal Area and a portion of the SW Proposal Area are already designated as Urban Reserve Zones that are intended for expansion of urban development in the long term.

NW Proposal Area

The NW Proposal Area (north of the Spokane River, south of Euclid, east of the City of Spokane Valley, & west of Harvard Rd.) is approximately 250 acres in gross size and would be anticipated to accommodate 2,150 people, based on net developable land and an urban buildout with open space requirements. The area is zoned as Urban Reserve and is moderately settled in the western half with existing homes primarily located along Meyers Rd. (east and west sides) and Buckeye which runs along the Spokane River. The most prominent environmental feature is the Spokane River, which is south of the area. The approximately 250 acres would be reduced to approximately 195 acres available for development after accounting for existing development not suitable for infill, roads, critical areas including the buffer area for the Spokane River, and the land along the Spokane River that is owned by the WA State Dept. of Parks & Recreation. The net developable acres may be further reduced by market factor and required infrastructure. Based on the adopted zoning, the net NW Proposal Area could accommodate approximately 10 - 39 units, depending on development patterns. If the area was added to the UGA and zoned for urban residential development and calculated at 4 units per acre, approximately 780 potential dwelling units would be added to the current supply which would accommodate approximately 2,150 people. The City's current R-1 zone allows net densities at 4 - 6 units per net acre which could add more to the supply, but the area contains the Spokane River and development potential would need to be limited to ensure river preservation and public access.

SW Proposal Area

The SW Proposal Area (south of the City limits which includes the properties west of Garry and along Henry Rd.) is approximately 2000 acres in gross size and would be anticipated to accommodate 4,500 people, based on net developable land and an urban buildout with open space requirements. The area is zoned as Urban Reserve, Rural Tradional, and Rural Conservation and is sparsely settled along Henry Rd. and Molter Rd. and is moderately settled along Garry Rd. and McKenzie Rd. with very few homes between the two roads. The most prominent environmental feature is the Saltese Flats Marsh Area located west of the properties along Henry Rd. which contains waterfowl and wetland habitats. The Central Valley School District's future high school site is also located in the SW Proposal Area, west of Henry Rd. and north of the Saltese Flats Marsh Area. The approximately 2000 acres would be reduced to approximately 410 acres available for development after accounting for existing development not suitable for infill, roads, critical areas, and the future high school site. The net developable acres may be further reduced by market factor and required infrastructure. Without mitigating any of the critical areas, based on the adopted zoning, the net SW Proposal Area could accommodate approximately 20 - 82 units, depending on development patterns. If the area was added to the UGA and zoned for urban residential development and calculated at 4 units per acre, approximately 1640 potential dwelling units would be added to the current supply which would accommodate approximately 4,500 people. The City's current R-1 zone allows net densities at 4 - 6 units per net acre which could add more to

the supply, however development potential would need to be limited to ensure the Liberty Lake WateRshed and the surrounding habitats would not be detrimentally affected.
A portion of the remaining vacant acreage should be identified as open space/ recreation and could support uses permitted within open space zones that would not degrade the critical areas or the Liberty Lake Watershed.

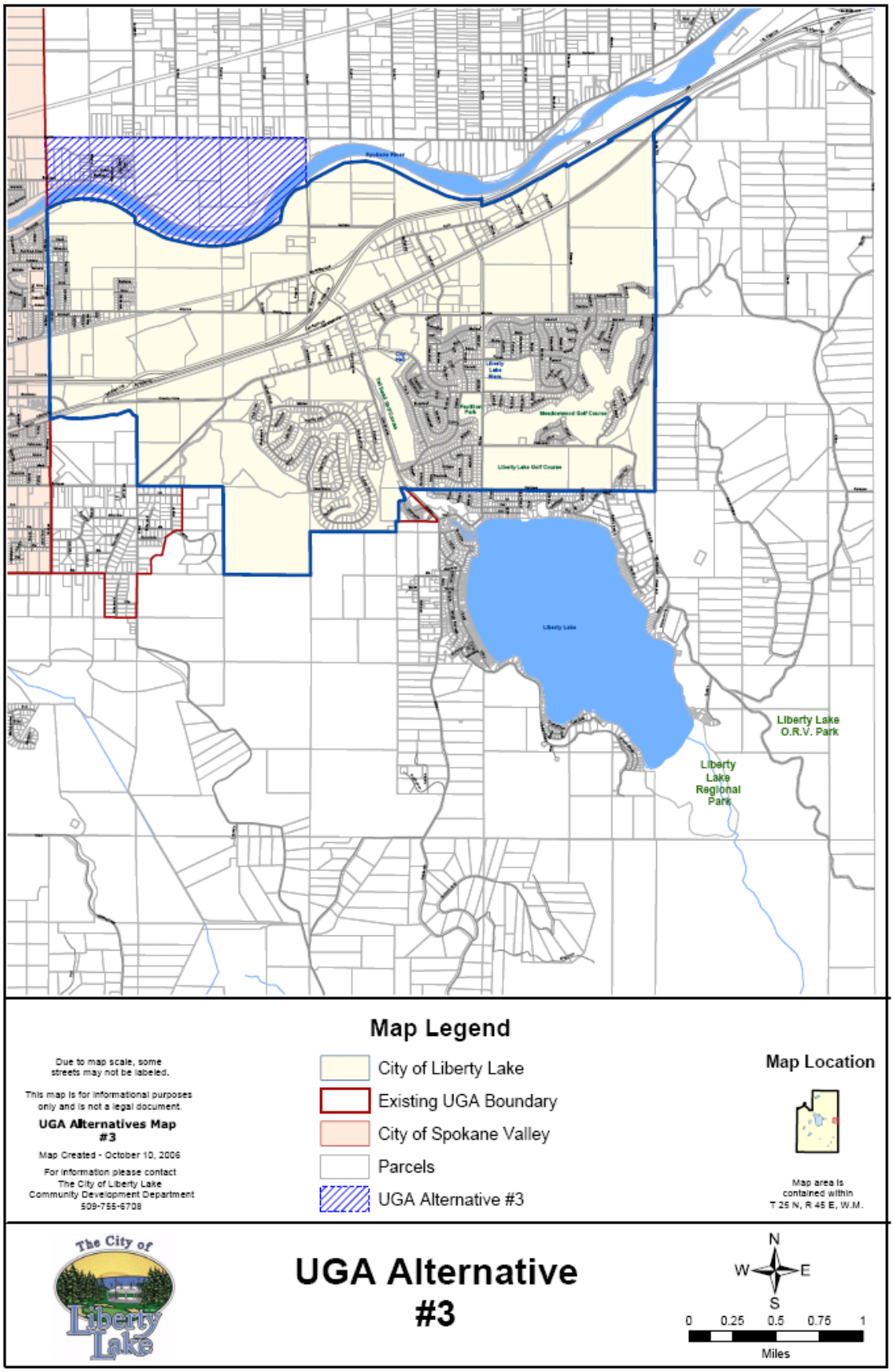
Generally, Alternative 2 would be expected to have the following impacts:

- New urban scale single family development could occur in the expanded UGA areas which includes a portion of the Liberty Lake Watershed and areas along the Spokane River.
- The City would have more input on the Spokane River and public uses.
- The rural character of the majority of the SW Proposal Area would be altered.
- The CVSD future high school would be located within the expanded UGA.
- The areas could be annexed into the City of Liberty Lake.
- A smaller amount rural development will still occur in the rural areas of Spokane County surrounding Liberty Lake with additional septic systems and private wells within Critical Aquifer Recharge Areas.

Mitigating Measures

1. The City of Liberty Lake requires all new development to be connected to public sewer which would eliminate the harmful effects of individual septic systems. This could be required within the expanded UGA areas through joint planning with Spokane County.
2. The City would be able to guide public use, zoning, and shoreline regulations along the Spokane River through joint planning with Spokane County and possibly create or expand shoreline protection through future City Shoreline Regulations.
3. Through joint planning with Spokane County, planned open space/ recreation zoning would be implemented.
4. The CVSD future high school could be constructed since the extension of urban services would be available.

3.4.2.3. Alternative 3 – NW Proposal



MAP 3.6

Under Alternative 3, the NW Proposal, the additional 2,418 dwelling units or 6,650 people would need to be accommodated within the existing City limits and the NW expanded UGA which would be rezoned for urban densities and uses. The entire NW Proposal Area is already designated as an Urban Reserve Zone that is intended for expansion of urban development in the long term. The NW Proposal Area (north of the Spokane River, south of Euclid, east of the City of Spokane Valley, & west of Harvard Rd.) is approximately 250 acres in gross size and would be anticipated to accommodate 2,150 people, based on net developable land and an urban buildout with open space requirements. The area is zoned as Urban Reserve and is moderately settled in the western half with existing homes primarily located along Meyers Rd. (east and west sides) and Buckeye which runs along the Spokane River. The most prominent environmental feature is the Spokane River, which is south of the area. The approximately 250 acres would be reduced to approximately 195 acres available for development after accounting for existing development not suitable for infill, roads, critical areas including the buffer area for the Spokane River, and the land along the Spokane River that is owned by the WA State Dept. of Parks & Recreation. The net developable acres may be further reduced by market factor and required infrastructure. Based on the adopted zoning, the net NW Proposal Area could accommodate approximately 10 - 39 units, depending on development patterns. If the area was added to the UGA and zoned for urban residential development and calculated at 4 units per acre, approximately 780 potential dwelling units would be added to the current supply which would accommodate approximately 2,150 people. The City's current R-1 zone allows net densities at 4 - 6 units per net acre which could add more to the supply, but the area contains the Spokane River and development potential would need to be limited to ensure river preservation and public access. Within the City, an increase in density would be required for new developments in the residential zones and a mandatory residential component would likely have to be added to the mixed use zones to accommodate the additional 4,500 people.

Generally, Alternative 3 would be expected to have the following impacts:

- New urban scale single family development could occur in the expanded UGA area which includes the area along the Spokane River.
- The City would have more input on the Spokane River and public uses.
- The CVSD future high school would not be located within the expanded UGA.
- New single family development within the City would have to be a higher density than existing single family developments.
- Further increases in the cost of housing as the urban area land supply gets tighter.
- A residential requirement would likely be required in the City's mixed use zones.
- Potential negative effects on the City's current economic growth with a loss of potential employees and can't find housing or the quality of life they are requiring.
- The area could be annexed into the City of Liberty Lake.
- Some additional rural development will still occur in the rural areas of Spokane County surrounding Liberty Lake with additional septic systems and private wells within Critical Aquifer Recharge Areas.

Mitigating Measures

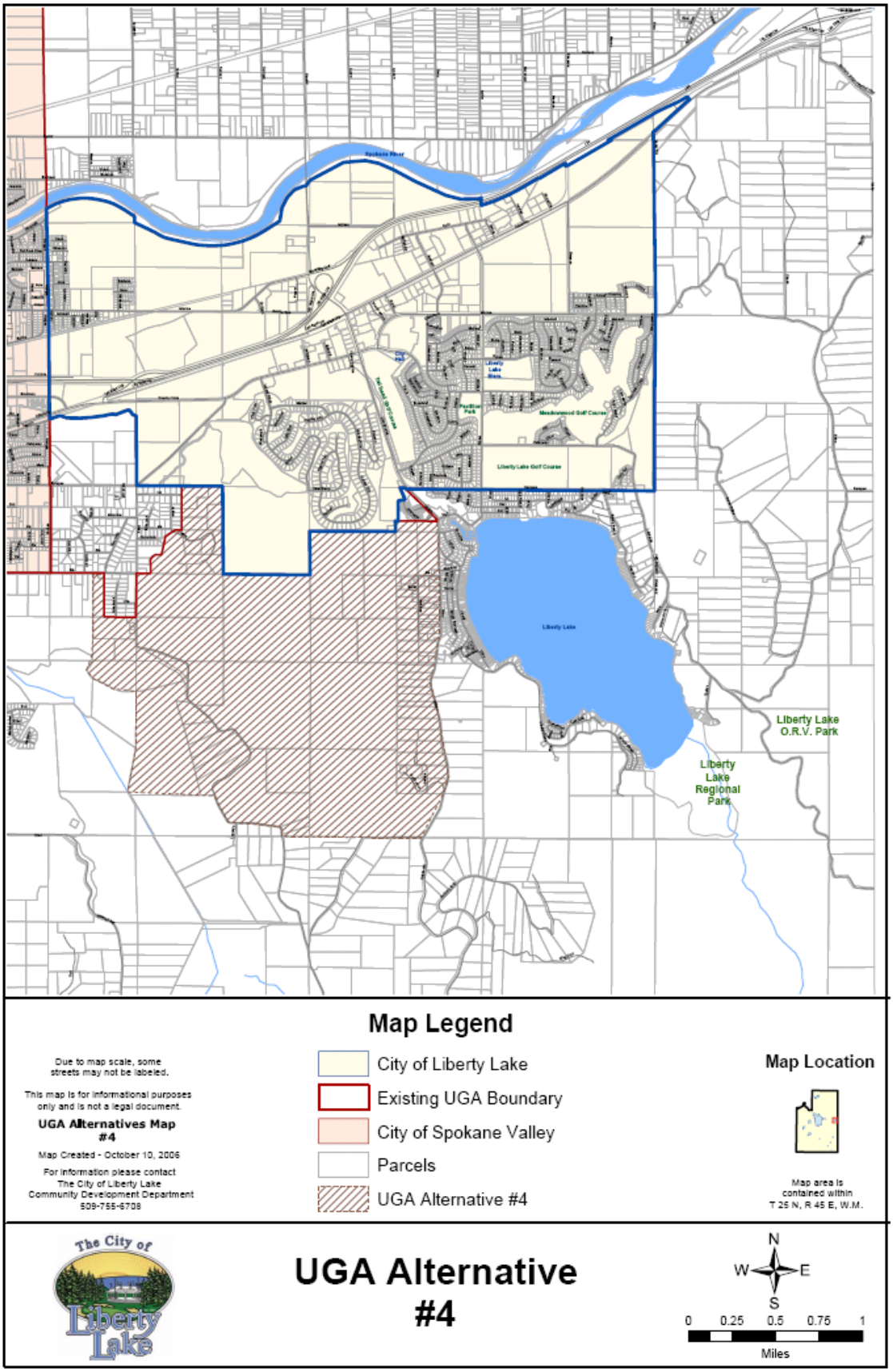
Make better use of the remaining land supply by:

- Reducing the number of dwelling units “lost” due to land set aside for roads and other utilities in new developments. This could be accomplished by

revising development standards to allow flexible road standards and/or by reducing or eliminating the street tree and urban streetscape requirements.

- Adopting higher minimum density requirements in targeted areas appropriate for growth.
- The City of Liberty Lake requires all new development to be connected to public sewer which would eliminate the harmful effects of individual septic systems. This could be required within the expanded UGA area through joint planning with Spokane County.
- The City would be able to guide public use, zoning, and shoreline regulations along the Spokane River through joint planning with Spokane County and possibly create or expand shoreline protection through future City Shoreline Regulations.
- Through joint planning with Spokane County, planned open space/ recreation zoning would be implemented.

3.4.2.4. Alternative 4 – Entire SW Proposal



MAP 3.7

Under Alternative 4, the Entire SW Proposal, the additional 2,418 dwelling units or 6,650 people would need to be accommodated within the existing City limits and the entire SW expanded UGA which would be rezoned for urban densities and uses. A portion of the SW Proposal Area is already designated as an Urban Reserve Zone that is intended for expansion of urban development in the long term. The SW Proposal Area (south of the City limits which includes the properties west of Garry and along Henry Rd.) is approximately 2000 acres in gross size and would be anticipated to accommodate 4,500 people, based on net developable land and an urban buildout with open space requirements. The area is zoned as Urban Reserve, Rural Tradional, and Rural Conservation and is sparsely settled along Henry Rd. and Molter Rd. and is moderately settled along Garry Rd. and McKenzie Rd. with very few homes between the two roads. The most prominent environmental feature is the Saltese Flats Marsh Area located west of the properties along Henry Rd. which contains waterfowl and wetland habitats. The Central Valley School District's future high school site is also located in the SW Proposal Area, west of Henry Rd. and north of the Saltese Flats Marsh Area. The approximately 2000 acres would be reduced to approximately 410 acres available for development after accounting for existing development not suitable for infill, roads, critical areas, and the future high school site. The net developable acres may be further reduced by market factor and required infrastructure. Without mitigating any of the critical areas, based on the adopted zoning, the net SW Proposal Area could accommodate approximately 20 - 82 units, depending on development patterns. If the area was added to the UGA and zoned for urban residential development and calculated at 4 units per acre, approximately 1640 potential dwelling units would be added to the current supply which would accommodate approximately 4,500 people. The City's current R-1 zone allows net densities at 4 - 6 units per net acre which could add more to the supply, however development potential would need to be limited to ensure the Liberty Lake Wateshed and the surrounding habitats would not be detrimentaly affected. A portion of the remaining vacant acreage should be identified as open space/ recreation and could support uses permitted within open space zones that would not degrade the critical areas or the Liberty Lake Watershed. Within the City, an increase in density would be required for new developments in the residential zones; however a mandatory residential component should not have to be added to the mixed use zones to accommodate the additional 2,150 people.

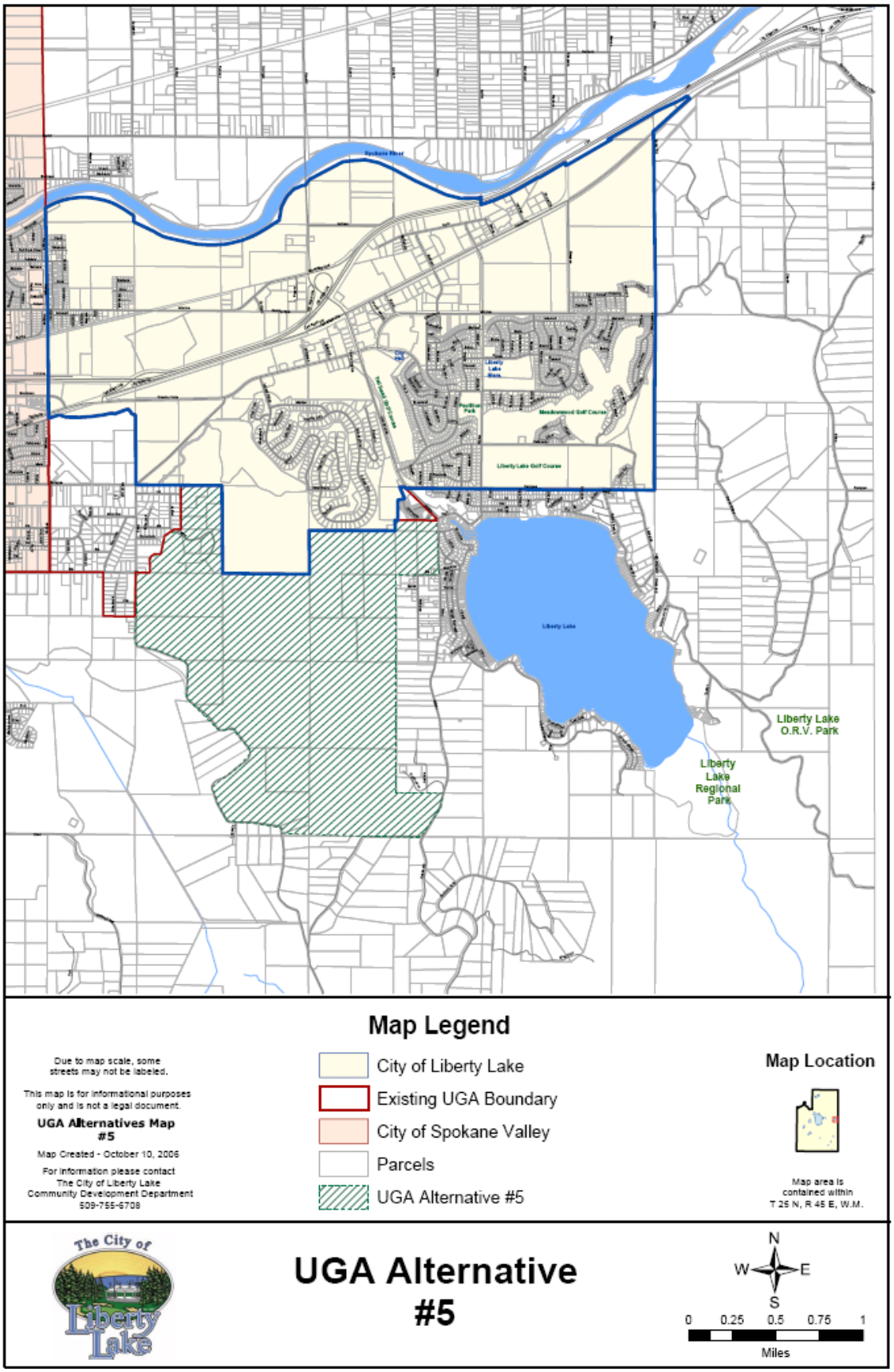
Generally, Alternative 4 would be expected to have the following impacts:

- New urban scale single family development could occur in the expanded UGA area which includes a portion of the Liberty Lake Watershed.
- The rural character of the majority of the SW Proposal Area would be altered.
- The CVSD future high school would be located within the expanded UGA.
- New single family development within the City would have to be a higher density than existing single family developments.
- Further increases in the cost of housing as the urban area land supply gets tighter.
- Potential negative effects on the City's current economic growth with a loss of potential employees and can't find housing or the quality of life they are requiring.
- The area could be annexed into the City of Liberty Lake.
- Some additional rural development will still occur in the rural areas of Spokane County surrounding Liberty Lake with additional septic systems and private wells within Critical Aquifer Recharge Areas.

Mitigating Measures

1. Make better use of the remaining land supply by:
    - Reducing the number of dwelling units “lost” due to land set aside for roads and other utilities in new developments. This could be accomplished by revising development standards to allow flexible road standards and/or by reducing or eliminating the street tree and urban streetscape requirements.
2. Adopting higher minimum density requirements in targeted areas appropriate for growth.
3. The City of Liberty Lake requires all new development to be connected to public sewer which would eliminate the harmful effects of individual septic systems. This could be required within the expanded UGA area through joint planning with Spokane County.
4. Through joint planning with Spokane County, planned open space/ recreation zoning would be implemented.
5. The CVSD future high school could be constructed since the extension of urban services would be available.

3.4.2.5. Alternative 5 – SW excluding area E. of Garry Rd. and W. of Henry Rd.



MAP 3.8

Under Alternative 5, SW excluding area E. of Garry Rd. and W. of Henry Rd, the additional 2,418 dwelling units or 6,650 people would need to be accommodated within the existing City limits and the reduced SW expanded UGA which would be rezoned for urban densities and uses. A portion of the area is already designated as an Urban Reserve Zone that is intended for expansion of urban development in the long term. Alternative 5 modifies the SW Proposal Area to remove the majority of the developed properties and the CVSD future high school site. Alternative 5 would still be anticipated to accommodate 4,500 people, based on net developable land and an urban buildout with open space requirements, however higher density would be required. The area is zoned as Urban Reserve, Rural Traditional, and Rural Conservation very few homes. The City's current R-1 zone allows net densities at 4 - 6 units per net acre which could add more to the supply, however development potential would still need to be limited to ensure the Liberty Lake Watershed and the surrounding habitats would not be detrimentally affected. A portion of the remaining vacant acreage should be identified as open space/ recreation and could support uses permitted within open space zones that would not degrade the critical areas or the Liberty Lake Watershed. Within the City, an increase in density would be required for new developments in the residential zones; however a mandatory residential component should not have to be added to the mixed use zones to accommodate the additional 2,150 people.

Generally, Alternative 5 would be expected to have the following impacts:

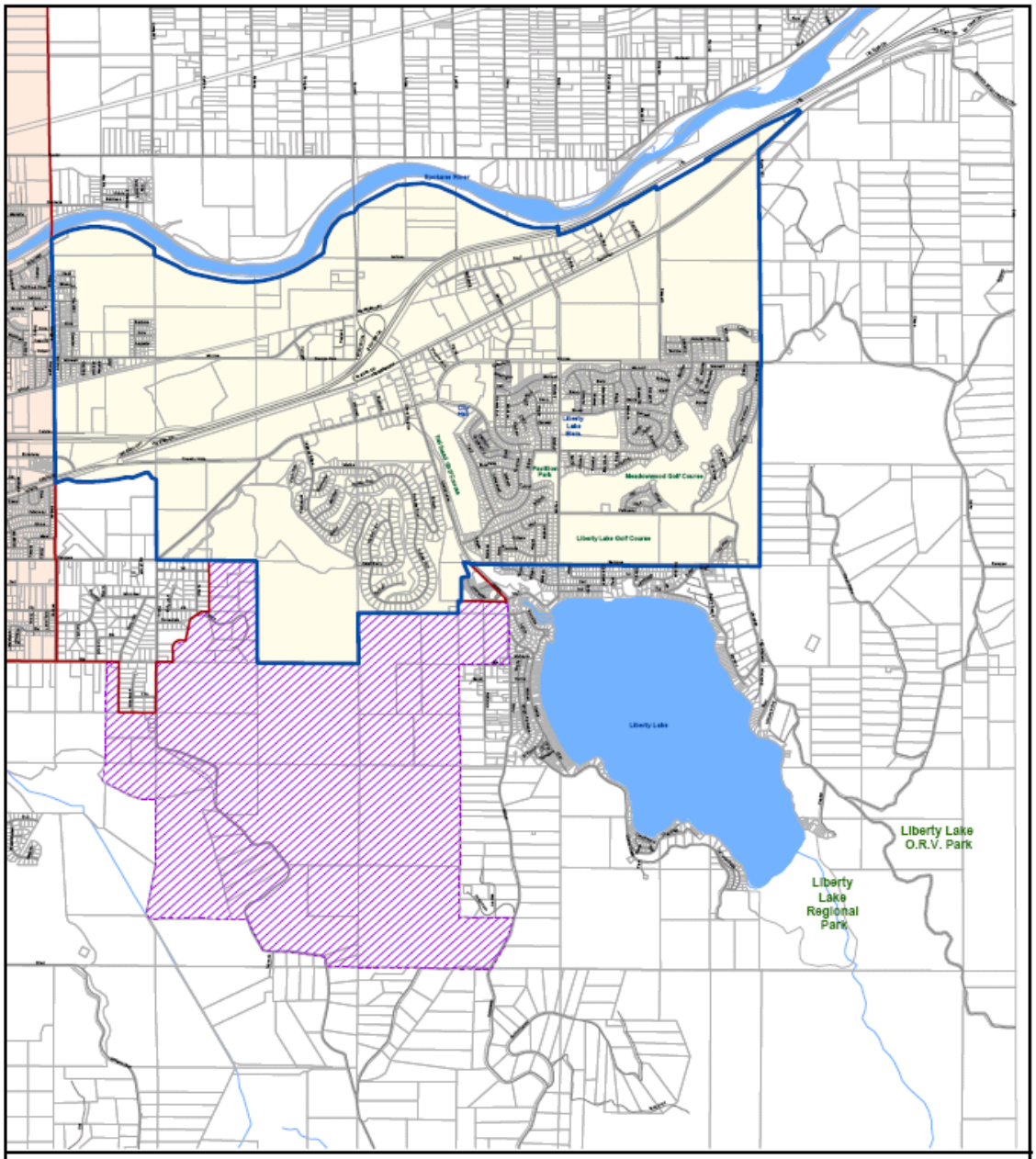
- New urban scale single family development could occur in the expanded UGA area which includes a portion of the Liberty Lake Watershed.
- The rural character of the majority of the SW Proposal Area would be altered.
- The CVSD future high school would not be located within the expanded UGA.
- New single family development within the City would have to be a higher density than existing single family developments.
- Further increases in the cost of housing as the urban area land supply gets tighter.
- Potential negative effects on the City's current economic growth with a loss of potential employees and can't find housing or the quality of life they are requiring.
- The area could be annexed into the City of Liberty Lake.
- Some additional rural development will still occur in the rural areas of Spokane County surrounding Liberty Lake with additional septic systems and private wells within Critical Aquifer Recharge Areas.

Mitigating Measures

Make better use of the remaining land supply by:

- Reducing the number of dwelling units “lost” due to land set aside for roads and other utilities in new developments. This could be accomplished by revising development standards to allow flexible road standards and/or by reducing or eliminating the street tree and urban streetscape requirements.
- Adopting higher minimum density requirements in targeted areas appropriate for growth.
- The City of Liberty Lake requires all new development to be connected to public sewer which would eliminate the harmful effects of individual septic systems. This could be required within the expanded UGA area through joint planning with Spokane County.
- Through joint planning with Spokane County, planned open space/ recreation zoning would be implemented.

3.4.2.6. Alternative 6 – SW excluding area E. of Garry Rd.



Map Legend

Due to map scale, some streets may not be labeled.

This map is for informational purposes only and is not a legal document.

UGA Alternatives Map #6

Map Created - October 10, 2006

For information please contact
The City of Liberty Lake
Community Development Department
509-755-6708

- City of Liberty Lake
- Existing UGA Boundary
- City of Spokane Valley
- Parcels
- UGA Alternative #6

Map Location

Map area is contained within T 25 N, R 45 E, W.M.

The City of Liberty Lake

UGA Alternative #6

N W E S

0 0.25 0.5 0.75 1

Miles

MAP 3.9

Under Alternative 6, SW excluding area E. of Garry Rd., the additional 2,418 dwelling units or 6,650 people would need to be accommodated within the existing City limits and the reduced SW expanded UGA which would be rezoned for urban densities and uses. A portion of the area is already designated as an Urban Reserve Zone that is intended for expansion of urban development in the long term. Alternative 6 modifies the SW Proposal Areea to remove the majority of the developed properties with access off Garry and Molter. The area is zoned as Urban Reserve, Rural Tradional, and Rural Conservation and is sparsely settled along Henry Rd. with very few homes east of Henry. The most prominent environmental feature is the Saltese Flats Marsh Area located west of the properties along Henry Rd. which contains waterfowl and wetland habitats. The Central Valley School District's future high school site is also located in the SW Proposal Area, west of Henry Rd. and north of the Saltese Flats Marsh Area. Alternative 6 would still be anticipated to accommodate 4,500 people, based on net developable land and an urban buildout with open space requirements, however higher density would be required. The area is zoned as Urban Reserve, Rural Tradional, and Rural Conservation very few homes. The City's current R-1 zone allows net densities at 4 - 6 units per net acre which could add more to the supply, however development potential would still need to be limited to ensure the Liberty Lake Wateshed and the surrounding habitats would not be detrimentaly affected. A portion of the remaining vacant acreage should be identified as open space/ recreation and could support uses permitted within open space zones that would not degrade the critical areas or the Liberty Lake Watershed. Within the City, an increase in density would be required for new developments in the residential zones; however a mandatory residential component should not have to be added to the mixed use zones to accommodate the additional 2,150 people.

Generally, Alternative 6 would be expected to have the following impacts:

- New urban scale single family development could occur in the expanded UGA area which includes a portion of the Liberty Lake Watershed.
- The rural character of the majority of the SW Proposal Area would be altered.
- The CVSD future high school would be located within the expanded UGA.
- New single family development within the City would have to be a higher density than existing single family developments.
- Further increases in the cost of housing as the urban area land supply gets tighter.
- Potential negative effects on the City's current economic growth with a loss of potential employees and can't find housing or the quality of life they are requiring.
- The area could be annexed into the City of Liberty Lake.
- Some additional rural development will still occur in the rural areas of Spokane County surrounding Liberty Lake with additional septic systems and private wells within Critical Aquifer Recharge Areas.

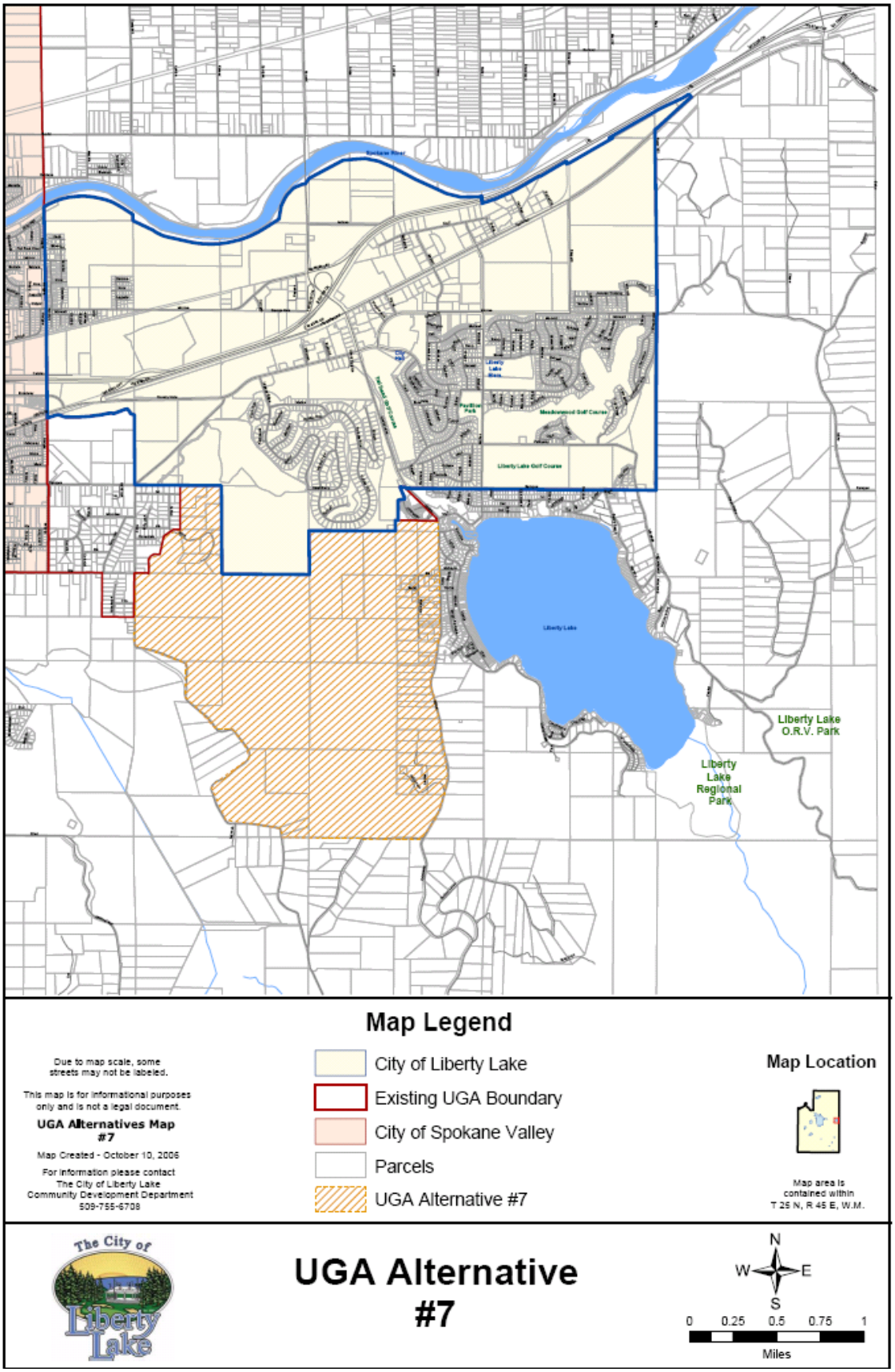
Mitigating Measures

Make better use of the remaining land supply by:

- Reducing the number of dwelling units “lost” due to land set aside for roads and other utilities in new developments. This could be accomplished by revising development standards to allow flexible road standards and/or by reducing or eliminating the street tree and urban streetscape requirements.
- Adopting higher minimum density requirements in targeted areas appropriate for growth.

- The City of Liberty Lake requires all new development to be connected to public sewer which would eliminate the harmful effects of individual septic systems. This could be required within the expanded UGA area through joint planning with Spokane County.
- Through joint planning with Spokane County, planned open space/ recreation zoning would be implemented.
- The CVSD future high school could be constructed since the extension of urban services would be available.

3.4.2.7. Alternative 7 – SW excluding area W. of Henry Rd.



MAP 3.10

Under Alternative 7, SW excluding area W. of Henry Rd., the additional 2,418 dwelling units or 6,650 people would need to be accommodated within the existing City limits and the reduced SW expanded UGA which would be rezoned for urban densities and uses. A portion of the area is already designated as an Urban Reserve Zone that is intended for expansion of urban development in the long term. Alternative 7 modifies the SW Proposal Areea to remove the the developed properties west of Henry Rd. and the CVSD future high school site. Alternative 7 would still be anticipated to accommodate 4,500 people, based on net developable land and an urban buildout with open space requirements, however higher density would be required. The area is zoned as Urban Reserve, Rural Tradional, and Rural Conservation and is sparsely settled along Molter Rd. and is moderately settled along Garry Rd. and McKenzie Rd. with very few homes east of Henry. The City's current R-1 zone allows net densities at 4 - 6 units per net acre which could add more to the supply, however development potential would still need to be limited to ensure the Liberty Lake Wateshed and the surrounding habitats would not be detrimentaly affected. A portion of the remaining vacant acreage should be identified as open space/ recreation and could support uses permitted within open space zones that would not degrade the critical areas or the Liberty Lake Watershed. Within the City, an increase in density would be required for new developments in the residential zones; however a mandatory residential component should not have to be added to the mixed use zones to accommodate the additional 2,150 people.

Generally, Alternative 7 would be expected to have the following impacts:

- New urban scale single family development could occur in the expanded UGA area which includes a portion of the Liberty Lake Watershed.
- The rural character of the majority of the SW Proposal Area would be altered.
- The CVSD future high school would not be located within the expanded UGA.
- New single family development within the City would have to be a higher density than existing single family developments.
- Further increases in the cost of housing as the urban area land supply gets tighter.
- Potential negative effects on the City's current economic growth with a loss of potential employees and can't find housing or the quality of life they are requiring.
- The area could be annexed into the City of Liberty Lake.
- Some additional rural development will still occur in the rural areas of Spokane County surrounding Liberty Lake with additional septic systems and private wells within Critical Aquifer Recharge Areas.

Mitigating Measures

- Make better use of the remaining land supply by:
- Reducing the number of dwelling units “lost” due to land set aside for roads and other utilities in new developments. This could be accomplished by revising development standards to allow flexible road standards and/or by reducing or eliminating the street tree and urban streetscape requirements.
- Adopting higher minimum density requirements in targeted areas appropriate for growth.
- The City of Liberty Lake requires all new development to be connected to public sewer which would eliminate the harmful effects of individual septic systems. This could be required within the expanded UGA area through joint planning with Spokane County.
- Through joint planning with Spokane County, planned open space/ recreation zoning would be implemented.

3.4.2. Population Growth and Land Supply Mitigating Measures

Many of the mitigation measures that could address the impacts of growth, sprawl and infill development are addressed in other sections of this EIS dealing with the various aspects of the natural and man made environments such as traffic, aesthetics, noise, habitat, open space, light and glare. Joint planning with Spokane County is identified as a mitigation measure for several items, this could be accomplished by the following:

6. Adopt an interlocal agreement between Liberty Lake and Spokane County that requires all new development in the Liberty Lake UGA to use city development and environmental standards. The agreement could also address permit review responsibilities and revenue sharing.
7. The interlocal agreement could also include strategies to encourage areas in the UGA to annex to the City *before* they are allowed to develop. This could eliminate dual government development review and simplify and standardize the building and land use permitting process.

In coordination with Spokane County, the City could also do the following:

- Consider adopting an ultimate City boundary and prohibiting urban levels of development outside the boundary. The City and County could begin purchasing land, easements or development rights just outside the boundary to create a permanent greenbelt or buffer area separating urban from rural areas.
- Encourage changes to the Urban Reserve zoned areas of the UGA and similar large lot zoned areas to facilitate a workable Transfer of Development Rights (TDR) program.
- Consider requiring the purchase or transfer of development rights for UGA expansion requests and for request to increase densities through rezones.
- Promote the use of cluster subdivision provisions, planned unit development rules, or other innovative and flexible development techniques designed to achieve minimum or target densities on parcels with environmental constraints such as wetlands or steep slopes.
- Discontinue past practices allowing low-density development within some county neighborhoods and most of the existing UGA.

Within the existing City limits, the City of Liberty Lake can also do the following:

- Ensure that assigned zoning densities fully utilize the infrastructure potential.
- Increase minimum densities to ensure full build out of available land.
- Require mixed housing types within the mixed-use zones
- Increase existing impact fees or create new impact fees to require new development to pay a larger share of the full cost of the services and capital projects necessitated by new development.
- Consider enacting impact fees for parks and fire and emergency services facilities.

3.5. LIGHT AND GLARE

3.5.1. Light and Glare – Existing Conditions

Both natural sunlight and artificial light are necessary for health, safety, security and livability. Natural sunlight can be blocked by tall buildings or reflected by glass, metal, wet streets and polished surfaces. Except for variable reflection off of vehicles and wet streets, glare from sunlight is minimal as there are not tall buildings with glass facades within the planning area.

There are a wide variety of lighting types used for industrial, commercial, and residential purposes, including facility lighting, street lighting, parking lot lighting, and lighted signage.

3.5.2. Light and Glare – Impacts

As all alternatives anticipate an increase in population and development, there will be an increased need for light for commercial, safety and security uses, which will increase the potential for light pollution and increased energy consumption. There are three types of light pollution.

- Sky glow is the type of light that impedes the view of the night sky.
- Light trespass is the spilling of light beyond the boundary of the property where the source is located.
- Glare. There are three types of glare:
    1. Disability glare reduces the contrast of images that are normally seen without the presence of glare; commonly know as “night blindness.”
    2. Discomfort glare occurs when an area of high illumination is encountered.
    3. Nuisance glare occurs under light trespass conditions.

3.5.3. Light and Glare – Mitigating Measures

Light trespass and glare impacts can be subjective and it may be difficult to eliminate adverse impacts on surrounding areas. Sky glow is the result of cumulative, wide spread light impacts while glare and light trespass have localized impacts. Potential mitigation measures include:

- Utilizing timed interior and exterior lighting for commercial, public and industrial uses.
- Sign regulations that help minimize the illumination, spill over and size of signs, including regulations that minimize the frequency of flashing electronic signs.
- Require design review that addresses building mass and scale so as not to impede sunlight.
- Larger buildings may use glass of low reflectance, tilting the glass to prevent glare and alternating glass with other materials.
- Require a lighting plan and an analysis of the cumulative impacts of the lighting for large projects. The plan should address positioning, angle and height of the illumination.

3.6. AESTHETICS AND URBAN DESIGN

3.6.1. Aesthetics and Urban Design – Existing Conditions

Urban design includes both the physical pattern and the aesthetic quality of urban development. Urban design policies and regulations can help to determine how new development might best fit into the pattern of existing urban areas to ensure that it will function as a community while ensuring attractiveness and livability. Urban design guidelines can help to maintain the valued aesthetic character of an area and can influence how it will look in the future.

Urban design policy decisions can affect development patterns, streetscapes, variety of transportation options, public safety, skylines and architecture, and quality of life. Urban design policy is implemented through zoning regulations such as land use, density, setbacks, building heights, landscaping, lot coverage, separation of land uses, pedestrian amenities, transit-oriented development, low-impact development, building bulk and scale, and architectural standards.

Transportation and street standards play a significant role in urban design. The construction of roads can influence the location of new industrial, commercial, and residential development. New development can influence the physical streetscape and character of a transportation corridor. Higher density urban development that is supported by urban streets with sidewalks, bicycle lanes, and transit bus pull-outs and shelters can accommodate reliance on a number of different transportation modes, including pedestrian, bicycle, transit, and private automobile. Lower density rural development that is supported by minimum standard rural roads does not support alternatives to the private automobile. Rural arterial roads can only accommodate multiple modes of transportation when bicycle lanes and bus stops are provided.

The purpose of the design guidelines is to ensure that new development fits in with existing neighborhoods and results in safe, well designed residential living environments. These design guidelines can help to provide balance that is critical to implementing policies that protecting neighborhood character.

3.6.2. Aesthetics and Urban Design – Impacts

Each alternative results in a different degree of urban intensity and distribution. Impacts of new development occur adjacent to established neighborhoods or as different types of new development are built adjacent to each other. As urban development spreads and/or intensifies, urban design will become increasingly important to ensure compatibility between and among established and new land uses while creating a livable community. The impacts of each alternative greatly depend upon the urban design standards applied at the time of development.

The no action alternative will focus development over the next 20 years within the existing City limits and will require the accommodation of approximately 15,000 additional people and their dwelling units and related urban services. This intensification of urban land use will require compact, higher-density development; possibly impacting established neighboring lower density neighborhoods.

Increased density may result in decreased physical and visual access to open space, increased traffic congestion, and an increased demand on parks and recreational facilities. This alternative would create an urban compact form while creating a clear delineation between the rural areas of the County and the urban City. With increased densities there would be an increase in multi-family projects.

The Adjusted UGA alternatives would allow continued urban growth to expand within the City and into other areas of the County, impacting previously rural areas with development influenced by urban design principles.

The UGA boundary would be adjusted to accommodate additional housing needs and, where adjusted, minimum densities would be adopted to ensure that development within the UGA occurs at urban densities. Development outside the UGA boundary would be limited to rural densities.

3.6.3. Aesthetics and Urban Design – Mitigating Measures

Standardized urban design mitigation measures are difficult to apply uniformly as each area has its own particular character, attributes and needs. Urban design standards can apply to types of projects such as subdivisions, multi-family housing and commercial developments and can be tailored to a particular neighborhood. Urban design mitigation would be difficult to apply to low-density rural development.

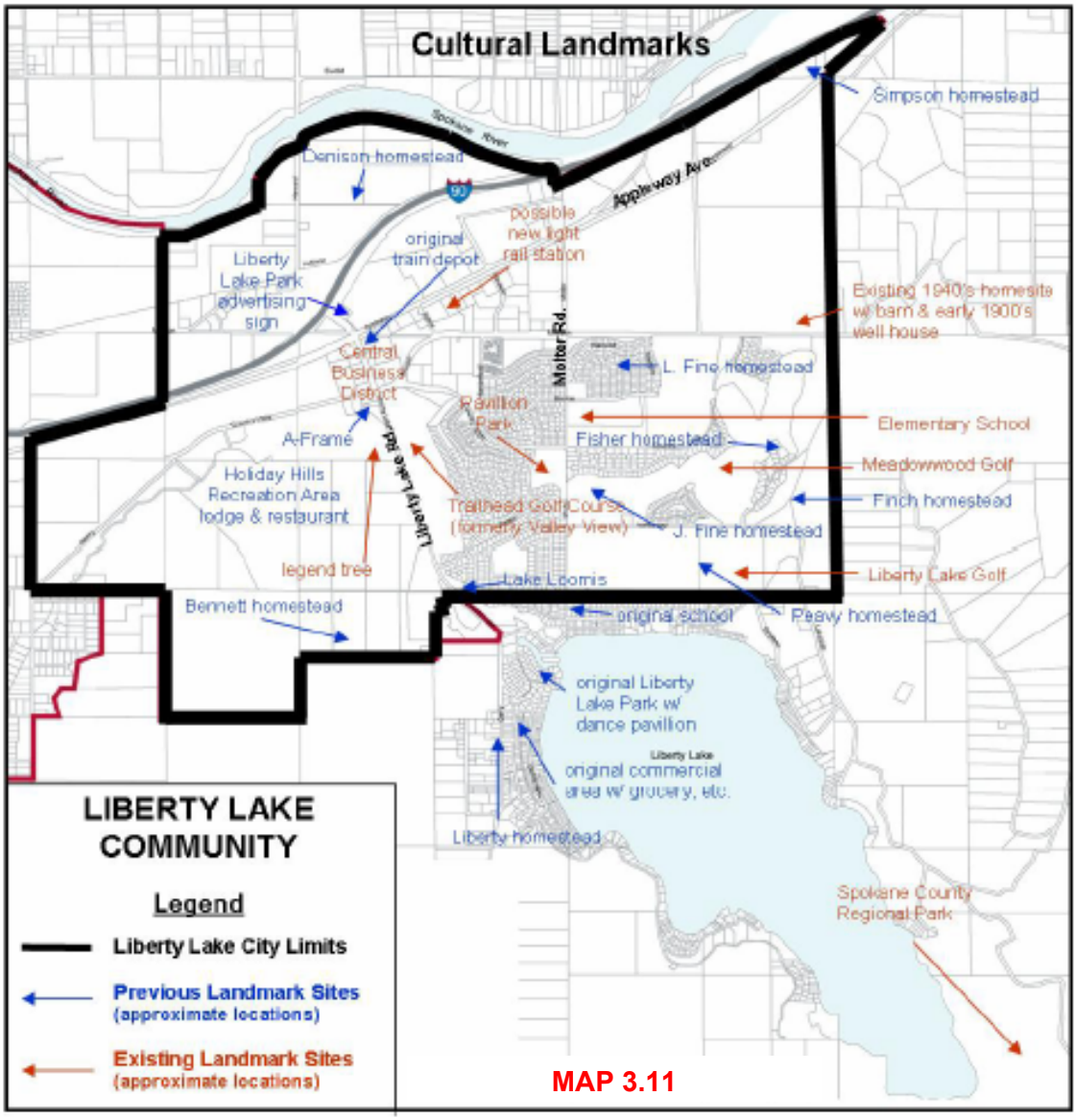
Many of the mitigating measures included this document can be applied in this section. Other mitigating measures include:

- Create a peripheral long-term 'Urban Reserve' area by decreasing the permitted rural densities (downzoning) outside of the UGA until included within higher density UGA as may be needed beyond the 20 year planning time frame.
- Create a Transfer of Development Rights (TDR) program to apply to the rural areas to encourage development in appropriate areas.
- Encourage low-impact development techniques that utilize landscaping and natural areas for stormwater runoff and energy efficiency.
- Consideration should be given to impacts on view sheds and view corridors and appropriate mitigating measures applied to protect views.

3.7. HISTORIC AND ARCHAEOLOGICAL RESOURCES

Historic and Archaeological Resources – Existing Conditions/Mitigation

Historic resources include specific sites, buildings or neighborhoods that have elements of archeological, historical, or architectural interest or other features that may have a special value to the community. Historical resources can be lost through development, lack of maintenance, fire, inappropriate alterations and redevelopment. All previously known landmarks are illustrated below in Map 3.8.



Archeological Resources Mitigation

Pursuant to RCW 27.53 Archaeological Sites and Resources, archeological sites are protected from unauthorized disturbance. The State Office of Archaeology and Historic Preservation maintains a record of archaeological sites and advises on the possible impacts and mitigations when these sites are located on property being developed. If an archeological site is discovered or artifacts are unearthed during construction, the State Office of Archaeology and Historic Preservation must be contacted for further direction.

3.8. TRANSPORTATION AND CIRCULATION

3.8.1. Transportation and Circulation – Existing Conditions

Transportation is intricately tied to land use and the pattern of development that evolves as an urban area grows. A transportation system includes various travel modes, such as pedestrian, bicycle, bus, automobile, freight truck, railroad, and airplanes. A multi-modal

transportation network includes and connects all of these different travel modes in an effective and efficient manner, including connections within and between modes.

The Growth Management Act (GMA) requires jurisdictions to adopt Level of Service (LOS) standards for both highway and transit services. The GMA requires that each jurisdiction's LOS standards be coordinated within the region and be supported by local regulations. The City of Liberty Lake utilizes the Spokane County level of service calculations which are based upon travel delay and is expressed as letters "A" through "F", with "A" being the highest or best travel condition and "F" being the lowest or worst condition. The lowest acceptable level of service for signalized (S) arterial intersections has been set at "D." The lowest acceptable level of service for unsignalized (U) arterial intersections in "E." This standard for LOS conforms to the latest edition of the Highway Capacity Manual, Special Report 209, published by the Transportation Research Board.

Liberty Lake has two unsignalized intersections; Molter/Appleway with an LOS of C, and Harvard/Indiana with an LOS of B. Both signalized intersections within Liberty Lake have a C LOS and are located at Liberty Lake/Appleway and Liberty Lake/Country Vista.

TABLE 3.13

(U) unsignalized		(S) signalized	
LOS	Delay	LOS	Delay
A	0-10 sec.	A	0-10 sec.
B	10-15 sec.	B	10-20 sec.
C	15-25 sec.	C	20-35 sec.
D	25-35 sec.	D	35-55 sec.
E	35-50 sec.	E	55-80 sec.
F	50+ sec.	F	80+ sec.

An underlying assumption of urban growth areas is that the city will ultimately annex its UGA and assume responsibility for the road network. Therefore, a carefully planned and coordinated transportation system is essential. Spokane County and the City of Liberty Lake are using compatible street standards to provide safe and efficient multimodal movement of people and goods and adequate levels of service as these areas develop to urban densities and are ultimately annexed to the City.

New and improved transportation facilities will be needed as growth occurs. The amount that is spent on building new roads and on improving existing ones is at least partially dependent on the land use alternatives that are chosen and the demands that those alternatives will put on the various transportation modes. Providing transportation infrastructure at the same time as, or in advance of, development can be much more cost-effective than retrofitting inadequate road infrastructure after development has occurred.

One measure to ensure transportation impacts are addressed proactively is concurrency. Concurrency involves matching public facilities and new development. The concept of concurrency predates the Growth Management Act for some public facilities, specifically through SEPA mitigation requirements. The GMA extends concurrency to transportation facilities by requiring that new development be served by adequate roads

and public transportation service, and that development is not permitted to cause these transportation facilities to operate below level of service standards that are adopted by local governments in their comprehensive plans. “Adequate capacity refers to the maintenance of concurrency” (WAC 365-195-835).

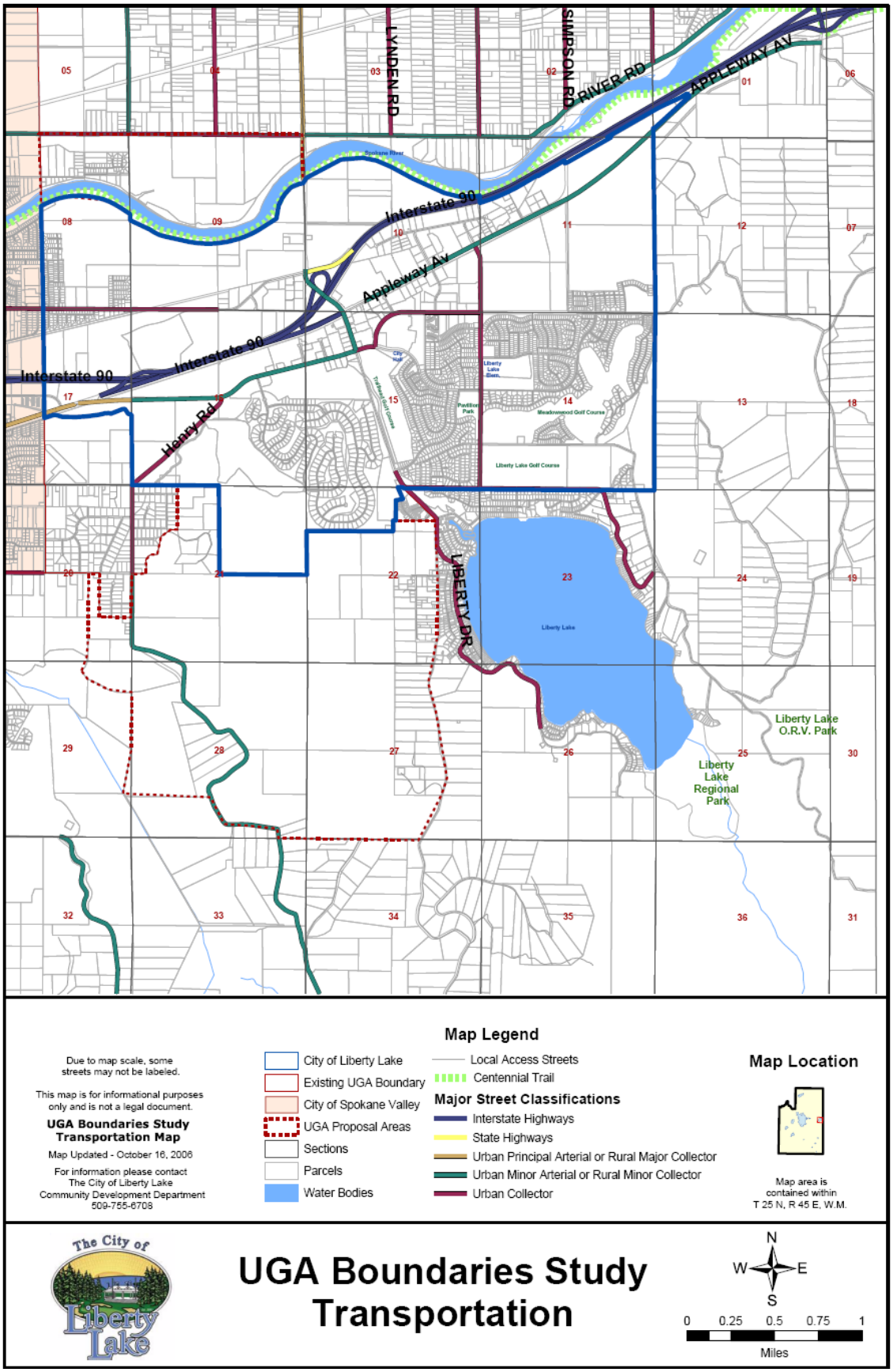
Annually the City reviews and updates its Transportation Improvement Plan (T.I.P.) and includes the projects within the Capital Improvement Plan (CIP). Transportation improvements are funded through the City General Fund, Harvard Road Fees, Federal, State, and various Local Funds such as LID funds. The constructions of new local access streets are the responsibility of developers when associated with new development projects.

Arterial and Collector Streets

Arterial and collector street designs are generally based on capacity or the volume of traffic they are intended to carry. The City of Liberty Lake has two types of arterial and collector streets and each have Average Daily Traffic (ADT) below design capacity. They are classified as follows:

TABLE 3.9

NO.	ROAD NAME	FROM	TO	DISTANCE(MILES)	RURAL CLASSIFICATIONS	URBAN CLASSIFICATIONS
1	HENRY RD	SPRAGUE AVE.	COUNTRY VISTA DR.	0.72	8-MINOR COLLECTOR	17-COLLECTOR
2	COUNTRY VISTA DR.	HENRY RD.	MISSION AVE.	0.9	7-MAJOR COLLECTOR	16-MINOR ARTERIAL
3	COUNTRY VISTA DR.	MISSION AVE. (WEST)	MISSION AVE. (EAST)	1.67	8-MINOR COLLECTOR	17-COLLECTOR
4	MISSION AVE.	WEST CITY BOUNDARY	HARVARD RD.	0.54	7-MAJOR COLLECTOR	16-MINOR ARTERIAL
5	MISSION AVE.	COUNTRY VISTA DR.	350' E OF MOLTER RD.	0.79	7-MAJOR COLLECTOR	16-MINOR ARTERIAL
6	MISSION AVE.	350' E OF MOLTER RD.	EAST CITY BOUNDARY	0.94	8-MINOR COLLECTOR	17-COLLECTOR
7	HARVARD RD.	MISSION AVE.	SPOKANE RIVER BRIDGE	0.6	6-MINOR ARTERIAL	16-MINOR ARTERIAL
8	LIBERTY LAKE RD.	SPRAGUE AVE.	APPLEWAY AVE.	1.06	7-MAJOR COLLECTOR	16-MINOR ARTERIAL
9	LIBERTY LAKE RD.	APPLEWAY AVE.	MISSION AVE.	0.26	7-MAJOR COLLECTOR	16-MINOR ARTERIAL
10	MOLTER RD.	SPRAGUE AVE.	MISSION AVE.	1.01	7-MAJOR COLLECTOR	16-MINOR ARTERIAL
11	MOLTER RD.	MISSION AVE.	APPLEWAY AVE.	0.4	7-MAJOR COLLECTOR	16-MINOR ARTERIAL
12	APPLEWAY AVE.	LIBERTY LAKE RD.	SIMPSON RD.	1.44	6-MINOR ARTERIAL	16-MINOR ARTERIAL
13	VALLEYWAY AVE.	MOLTER RD.	LAKESIDE RD.	0.92	7-MAJOR COLLECTOR	16-MINOR ARTERIAL
14	LAKESIDE RD.	VALLEYWAY	SOUTH CITY BOUNDARY	0.18	8-MINOR COLLECTOR	17-COLLECTOR
15	SPRAGUE AVE.	LIBERTY LAKE RD.	MOLTER RD.	0.43	7-MAJOR COLLECTOR	16-MINOR ARTERIAL
16	SPRAGUE AVE.	MOLTER RD.	GAGE ST.	0.68	8-MINOR COLLECTOR	17-COLLECTOR


LYNDEN RD
SIMPSON RD
RIVER RD
APPLEWAY AV
Interstate 90
Appleway Av
Henry Rd
LIBERTY DR
Liberty Lake O.R.V. Park
Liberty Lake Regional Park
Map Legend
Due to map scale, some streets may not be labeled.
This map is for informational purposes only and is not a legal document.
UGA Boundaries Study Transportation Map
Map Updated - October 16, 2006
For information please contact
The City of Liberty Lake
Community Development Department
509-755-6708
City of Liberty Lake
Existing UGA Boundary
City of Spokane Valley
UGA Proposal Areas
Sections
Parcels
Water Bodies
Local Access Streets
Centennial Trail
Major Street Classifications
Interstate Highways
State Highways
Urban Principal Arterial or Rural Major Collector
Urban Minor Arterial or Rural Minor Collector
Urban Collector
Map Location
Map area is contained within T 25 N, R 45 E, W.M.
The City of Liberty Lake
UGA Boundaries Study Transportation
N
W
E
S
0 0.25 0.5 0.75 1
Miles

MAP 3.12

3.10.1. Bicycle and Pedestrian Facilities

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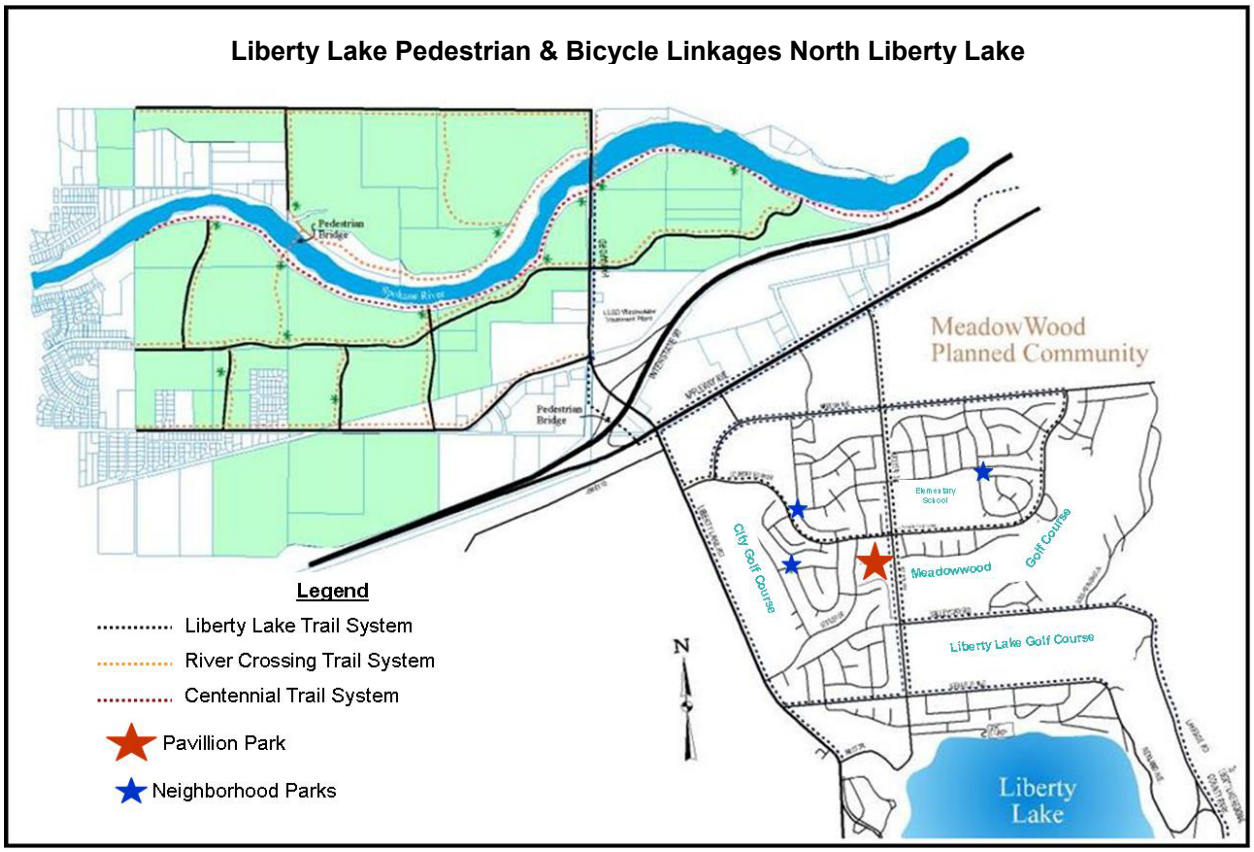


MAP 3.13

3.10.1.2 State Highways

In the Liberty Lake area, the state highway system includes one freeway, Interstate 90.

3.10.1.3 Access Management

In 1991, the legislature enacted Washington access control legislation. Under WAC Chapter 468-52, the Washington State Department of Transportation was charged with the implementation of the access control classification system and the establishment of standards and procedures for the regulation and control of ingress to and egress from the State Highway System. Key among the specifications is the spacing of access points for intersections.

3.10.1.4 Regional Transportation Planning

The Spokane Regional Transportation Council (SRTC) is responsible for regional transportation planning in Spokane County. This responsibility is established in Title 23 (Highways), and Title 49 (Transportation), Code of Federal Regulations. The Governor of Washington designated SRTC as the Metropolitan Planning Organization (MPO) responsible for carrying out federal transportation requirements and as the Regional Transportation Planning Organization (RTPO) responsible regional transportation planning requirements imposed by the Growth Management Act (GMA).

STRC is in the process of running the regional transportation model that will analyze the capacity of the existing systems to carry the projected demand on the regional transportation system based on projected population and employment growth.

3.10.1.5 Spokane Transportation Authority (STA)

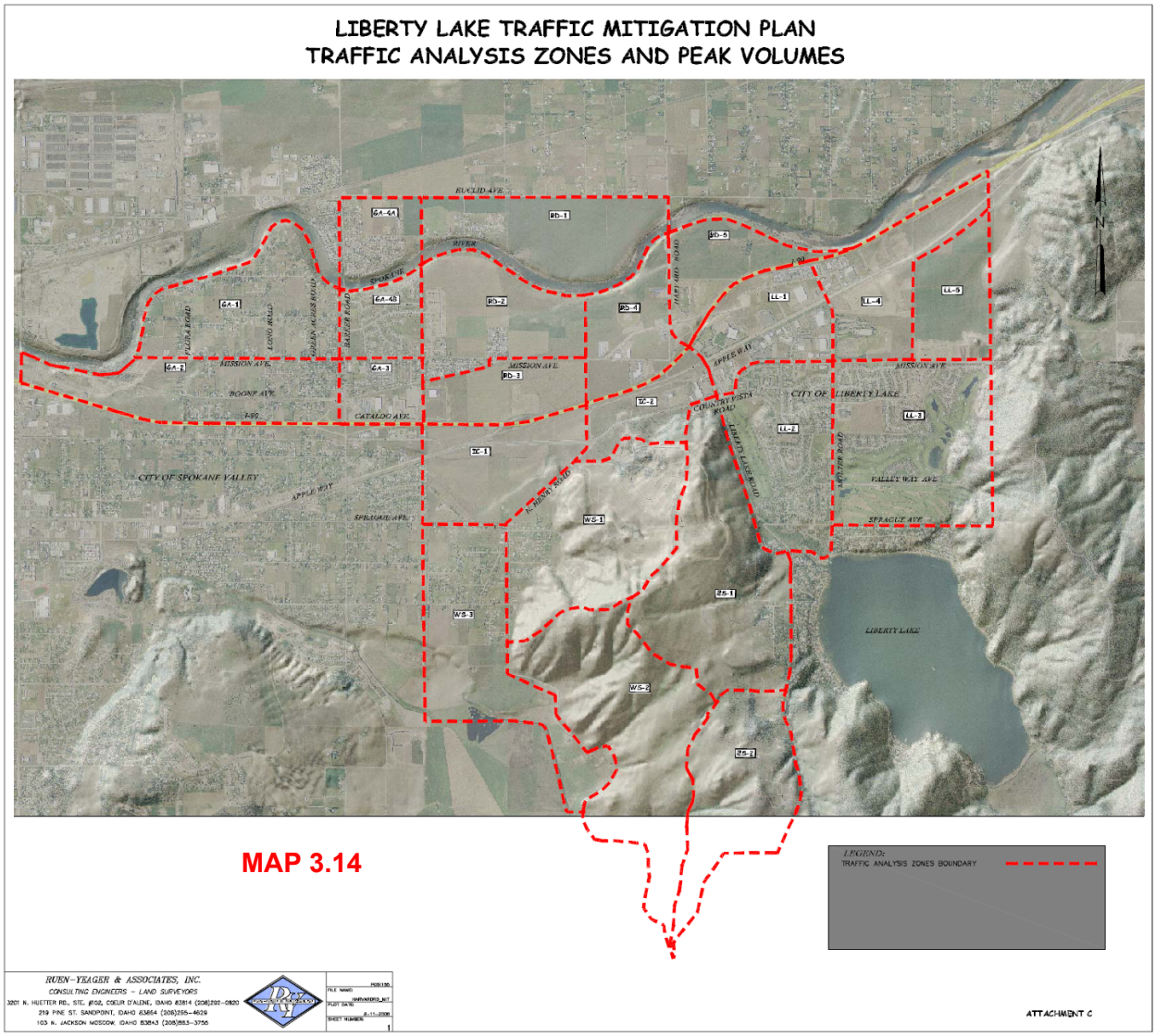
Spokane Transit Authority (STA) provides varying levels of public transportation service to all parts of Spokane County. In Liberty Lake, STA provides park and ride services in addition to bus route service.

3.8.2. Transportation and Circulation – Impacts

While the growth alternatives discussed in this EIS are based on the same 20-year population projection, each alternative distributes the growth (primarily the residential growth) in different ways. Options exist for mitigating impacts other than by roadway width increases (which can have the effect of reducing mode share for non-motorized modes and transit.)

The alternatives differ in the amount of land required for urban growth and the intensity with which that land is developed in terms of residential densities, allowable building height, size and floor area of commercial and industrial structures, and the mix of land uses. Population growth is expected to create additional demand for transportation facilities and services under all alternatives. However, the impacts on the various modes of transportation and associated capital improvements are different for each alternative.

The major areas for commercial and industrial employment growth and, therefore peak hour motor vehicle trip generation are assumed to be similar under each alternative. While there could be an increase in industrial and commercial uses, the impacts have been considered as part of the Liberty Lake Mitigation Plan. Therefore, the improvements proposed in City Transportation Improvement Programs and the Capital Facilities and Comprehensive Plans are expected to mitigate the impacts of future development and the corresponding increased demand on city streets.



Alternative 1 - No Action

Under this alternative, growth would occur within existing City limits at existing zoning and increased residential densities. Generally, the No Action Alternative would be expected to:

- Create a shortage of land for urban residential development resulting in increased housing costs and pushing development and transportation impacts into surrounding rural areas of the County.
- Continue the present trend of dependence on private automobiles for transportation;
- Increase traffic congestion on City and County arterials;

Alternatives 2- 7 - Adjusted UGA

Under these alternatives, land inside the City and existing UGA would retain its existing zoning and possibly slightly higher residential densities and the UGA boundary would be adjusted sufficiently to accommodate the projected population growth. Land added to the

UGA would be rezoned from rural densities to urban densities of at least 4 units per acre and would become eligible for City sewer and water and annexation.

Expansion of the UGA boundary at existing residential densities and under existing development conditions would be expected to have impacts similar to Alternative 1, and would generally:

- Depending on how large the expanded UGA becomes, provide more than enough land for the projected 20-year population growth.
- Increase dependence on private automobiles for transportation;
- Increase traffic congestion on City and County arterials;
- Increase commuting times for drivers, transit riders, and bicyclists;
- Increase air and water pollution from motor vehicles due to increase in vehicle miles traveled;
- Reduce efficiency and cost-effectiveness of public transportation;
- Require capital improvements and maintenance of the transportation network..

3.8.3. Transportation and Circulation – Mitigating Measures

As the City develop at urban densities over the 20- year planning period many transportation improvements will be required throughout the planning area based on the impacts described above. The transportation improvement projects listed below are identified in City's transportation plans and will be made as warranted and approved by Liberty Lake City Council, WSDOT, and SRTC.

Street Improvements

I-90 Interchange

- Reconstruct WB On / Off Ramps (remove loop ramp)

- Widen/Reconstruct Interstate Bridge to 5-Lane

- WB On Ramp: Dual Turn Lanes for S to W Movement

- EB Off Ramp: Turn Lane for E to N Movement

Henry Road
Molter to E 11th (approx) - Widen / Reconstruct / Pave to 2-Lane

- Widen / Reconstruct / Pave to 2-Lane

E 11th to Sprague Avenue

- Widen / Reconstruct to 3-Lane

Sprague Intersection - Reconstruct and Signalize Intersection

Construct a new 4-phase signalized intersection. Each Sprague Avenue leg will be widened for approximately 200 feet from the existing 2-lane to 3-lane sections with striped turn bays added for left turn movements. Henry Road's south leg will require approximately 200 feet of widening from the existing 2-lane to a 3-lane section to include a left turn bay for north to west movement. Henry Road's north leg will be widened from

the existing 2-lane to a 5-lane section that provides: two northbound through lanes, one southbound through lane, a left turn bay for the south to east movement, and a right turn bay for south to west movement. All four legs include curb, gutter, and sidewalk. Approximately 20,000 square feet of right of way is assumed to be acquired for the widening.

Sprague Avenue to Country Vista - Widen / Reconstruct to 4-Lane

Widen 0.5-miles of existing 2-lane roadway to 4-lanes. Local access roads and individual approaches will be improved. Edge treatments incorporate curb, gutter and sidewalk. Approximately 74,000 square feet of right of way is assumed to be acquired for the widening.

Country Vista Intersection (new) - Signalize

Construct a new 4-phase signalized intersection. For Henry Road, a 5-lane section providing roadway width continuity and turn bays for left turn movements will be constructed. Incidental striping, curb, gutter, and sidewalks are also included. Approximately 29,800 square feet of right of way is assumed to be acquired for the widening.

Country Vista to I-90 Interchange (new) - Construct (new) 5-Lane

Construct 0.1-miles of new 5-lane roadway to achieve continuity with the bridge widening through Country Vista Avenue. Edge treatments incorporate curb, gutter and sidewalk. Approximately 44,350 square feet of right of way is assumed to be acquired for the widening.

Henry Road (continued)
I-90 Interchange - Reconstruct Interchange and Bridge
Reconstruct the existing I-90 partial interchange to a fully terminal tight diamond interchange. Install two new 3-phase signals to regulate on and off-ramp movements. Widen and construct four 1-mile I-90 auxiliary lanes between I-90 interchanges (Barker and Harvard) to accommodate multi-interchange on and off-ramp weaving. Widen and reconstruct the existing I-90 westbound off-ramp bridge to a 5-Lane bridge. Approximately 1/2 mile of I-90 realignment is included. Approximately 20-acres of right of way is assumed to be acquired for the interchange and realignment.

I-90 Interchange to Mission (new) - Construct (new) 2 / 5-Lane

Construct 0.25-miles of new 5-lane roadway to achieve continuity with bridge widening through the regional retail shopping sites to the north. Construct approximately 300 feet of taper north and 300 feet of 2-lane roadway terminating at Old Mission Avenue. The 5-lane section will incorporate hard divided median and left turn bays at combined retail accesses, curb, gutter and sidewalk. Edge treatments for the taper and 2-lane segments include drainage improvements, curb, gutter and an asphalt pedestrian-bicycle path. Right-of-way needs assumed to be developer provided.

Mission Intersection (new) - Signalize (by warrant)

Construct a new 2-phase signal that optimizes east to south and north to west movements. All three legs of the intersection will be widened for 200 feet to

accommodate turn bays. Left turn bays for the south and east legs and a right turn bay for the west leg. Right-of-way needs assumed to be developer provided.

Mission to Indiana (new Hall Road) - Construct (new) 2-Lane

Construct approximately 0.75-miles of new 2-lane roadway. Edge treatments to include drainage improvements, curb, gutter and an asphalt pedestrian-bicycle path. Right-of-way needs assumed to be developer provided.

Road
Powerline Easement to Mission - Construct (new) 2-Lane- Construct (new) 2-Lane

Construction of approximately 0.75-miles of new 2-lane roadway. Edge treatments to include drainage improvements with curb, gutter and an asphalt pedestrian-bicycle path. Right-of-way needs assumed to be developer provided.

K Road
Indiana to Mission - Construct (new) 2-Lane

Construction of approximately 0.4-miles of new 2-lane roadway. Edge treatments to include drainage improvements with curb, gutter and an asphalt pedestrian-bicycle path. Right-of-way needs assumed to be developer provided.

H Road
Indiana to Mission - Construct (new) 2-Lane

Construction of approximately 0.25-miles of new 2-lane roadway. Edge treatments to include drainage improvements with curb, gutter and an asphalt pedestrian-bicycle path. Right-of-way needs assumed to be developer provided.

Harvard Road
I-90 Interchange - Widen/Reconstruct Bridge to 5-Lane & Increase Turn Movement Capacity

- Widen and reconstruct the existing 2-lane bridge to a 5-lane. About 1/2 mile of I-90 realignment is assumed. Approximately 10-acres of right of way is assumed to be acquired for the widening.

- Widen the existing I-90 eastbound off-ramp for approximately 400 feet to accommodate a dedicated right turn lane. Upgrade the existing signalized intersection to provide a green arrow for south movement. Incidental striping and signage are also included. Approximately 6,700 square feet of right of way is assumed to be acquired for the widening.

- Widen approximately 200 feet of the existing intersection's southbound leg and add dual right turn lanes for the south to west movement onto the existing I-90 eastbound on-ramp. Incidental striping, signage, curb, gutter, and pathway tie-ins are also included. Approximately 4,200 square feet of right of way is assumed to be acquired for the widening.

- Widen and reconstruct approximately 400 feet of the existing I-90 west bound off-ramp to accommodate dual stop controlled right turn lanes. Incidental striping and signage

are also included. Approximately 6,700 square feet of right of way is assumed to be acquired for the widening.

I-90 Interchange to Mission - Widen / Reconstruct to 5-Lane

Widen and reconstruct approximately 0.25-miles of existing 2/5-lane roadway segment to a full 5-lane section to achieve continuity with bridge widening and the existing 5-lane section south of Appleway Avenue. Existing trail separation/tie-in required. Approximately 60,200 square feet of right of way is assumed to be acquired for the widening.

Harvard Road (continued)
Mission Intersection - Signalize

Construct a new 3-phase signal to replace the existing Mission Avenue and I-90 westbound off-ramp stop controlled intersection. Intersection improvements include constructing a 400 feet of 6-lane for the south leg to provide for a dual north to west turn movement and widening of the north leg to a 5-lane section to provide for a 200 foot dedicated right hand turn lane are required. Incidental striping, signage, curb, gutter, drainage and pathway tie-ins are also included. Approximately 30,000 square feet of right of way is assumed to be acquired for the widening.

Indiana Intersection - Signalize

Construct a new 4-phase signalized intersection. Each Indiana Avenue leg will be a new 3-lane section providing turn bays for left turn movements and include curb, gutter and sidewalk. Harvard Road's existing 4-lane section will be re-striped to 5-lanes adding left turn bays for signalized left turn movements. Incidental curb, gutter, drainage and pathway tie-ins are also included. Right of way need along Indiana Avenue is to be developer provided.

Liberty Lake Road
E Country Vista Intersection – Roundabout

Replace the existing 4-way stop controlled intersection with a single-lane roundabout. Incidental striping, signage, curb, gutter, drainage and pathway tie-ins are also included. Right of way needs require assessment.

Molter Road
Mission Intersection - Roundabout

Replace the existing signalized intersection with a dual-lane, large radius roundabout. Incidental striping, signage, curb, gutter, drainage and pathway tie-ins are also included. Right of way needs require assessment.

Appleway Intersection - Signalize (by warrant)

Construct a new 2-phase signalized intersection to replace the stop controlled Molter Road. Incidental striping, curb, gutter, drainage and pathway tie-ins are also included. Construction is anticipated to remain in existing right of way.

N Simpson Road
Mission to Appleway (new) - Construct / Pave to 2-lane w/ L-turn bays

Construct and pave approximately 0.6-miles of new 2-lane roadway. To accommodate left turn bays at arterial roads, 200 foot long, 3-lane road sections are to be provided for the north leg of the Mission Avenue intersection and for the south leg of the Appleway Avenue. Edge treatments to include drainage improvements with curb, gutter and an asphalt pedestrian-bicycle path. Right-of-way needs, if required, assumed to be developer provided.

Hodges to Henry - Widen/Reconstruct to 3-Lane

Widen 0.5-miles of existing 2-lane roadway to 3-lanes. Center lane to accommodate free-running left and left turn bays via painted median. Local access roads and individual approaches will be improved. Open roadside ditches to receive stormwater and a separated-asphalt path for pedestrian and bicycle use will be included. Approximately 63,400 square feet of right of way is assumed to be acquired for the widening.

Henry to K - Reconstruct/Construct (new alignment) to 3-Lane

Widen 0.8-miles of existing 2-lane roadway to 3-lanes and construct approximately 0.3-miles of new 3-lane roadway along a new alignment. Center lane to accommodate fee-running left and left turn bays via painted median. Local access roads and individual approaches will be improved. Open roadside ditches to receive stormwater and a asphalt-asphalt path for pedestrian and bicycle use will be included. Right-of-way needs be developer provided.

Mission Avenue (continued)
K to H - Construct (new alignment) to 3-Lane

Construct approximately 0.5-miles of new 3-lane roadway along a new alignment. Center lane to accommodate fee-running left and left turn bays via painted median. Local access roads and individual approaches will be improved. Open roadside ditches to receive stormwater and as asphalt-asphalt path for pedestrian and bicycle use will be included. Right-of-way needs to be developer provided.

Powerline Easement to K - Construct (new) to 2-Lane w/ L-turn bays

Construction of approximately 0.5-miles of new 2-lane roadway. Two 400 foot long, 3-lane road sections are to be provided for intersection turn cueing at L and K Streets. Edge treatments to include drainage improvements with one side of the roadway housing an curb, gutter and an asphalt pedestrian-bicycle path. Right-of-way needs to be developer provided.

K to H - Construct (new) to 2-Lane w/R- & L-turn bays

Construction of approximately 0.5-miles of new 2-lane roadway. One 200 foot long, 3-lane road section west of H Street is to be provided for east to north movement intersection turn cueing at H Street. Edge treatments to include drainage improvements with one side of the roadway housing an curb, gutter and an asphalt pedestrian-bicycle path. Right-of-way needs to be developer provided.

H to Harvard - Construct (new) to 2-Lane

Construction of approximately 0.25-miles of new 2-lane urban roadway. The overall section width will be 4-lanes and incorporate parallel curb parking, curb, gutter and sidewalk. Right-of-way needs to be developer provided.

E of Harvard - Construct (new) to 2-Lane

Construct approximately 1.4-miles of new 2-lane roadway. Three 200 foot long, 3-lane road sections are to be provided for intersection turn cueing at local access streets. Edge treatments to include drainage improvements with one side of the roadway housing an curb, gutter and an asphalt pedestrian-bicycle path. Right-of-way needs to be developer provided.

Hodges to Harvard - Widen/Reconstruct to 3-Lane

Widen 1.5-miles of existing 2-lane roadway to 3-lanes. Center lane to accommodate fee-running left and left turn bays via painted median. Local access roads and individual approaches will be improved. Open roadside ditches to receive stormwater and a asphalt-asphalt path for pedestrian and bicycle use will be included. Right-of-way needs to be developer provided.

3.8.3.1. Other Mitigating Measures

The following mitigating measures could be incorporated to mitigate the adverse impacts of all alternative growth scenarios:

- Continue City participation in the regional transportation planning process through the SRTC
- Ensure that adequate transportation facilities are available to serve new development.
- Utilize SRTC forecasting model to anticipate future traffic growth so transportation facilities can be provided in a timely and coordinated manner.
- Encourage land use patterns that reduce vehicle trips and vehicle miles traveled.
- Develop neighborhood commercial centers and locate higher density housing convenient to jobs and services to ensure pedestrian and bicycle access to transit lines, and to encourage bicycle, pedestrian and transit commute trips.
- Continue to support Commute Trip Reduction (CTR) programs aimed at reducing congestion, air pollution and energy consumption by reducing the number of single occupant vehicles being driven.
- Continue to improve the linkages within the bicycle and pedestrian network to encourage pedestrian and transit commute trips.